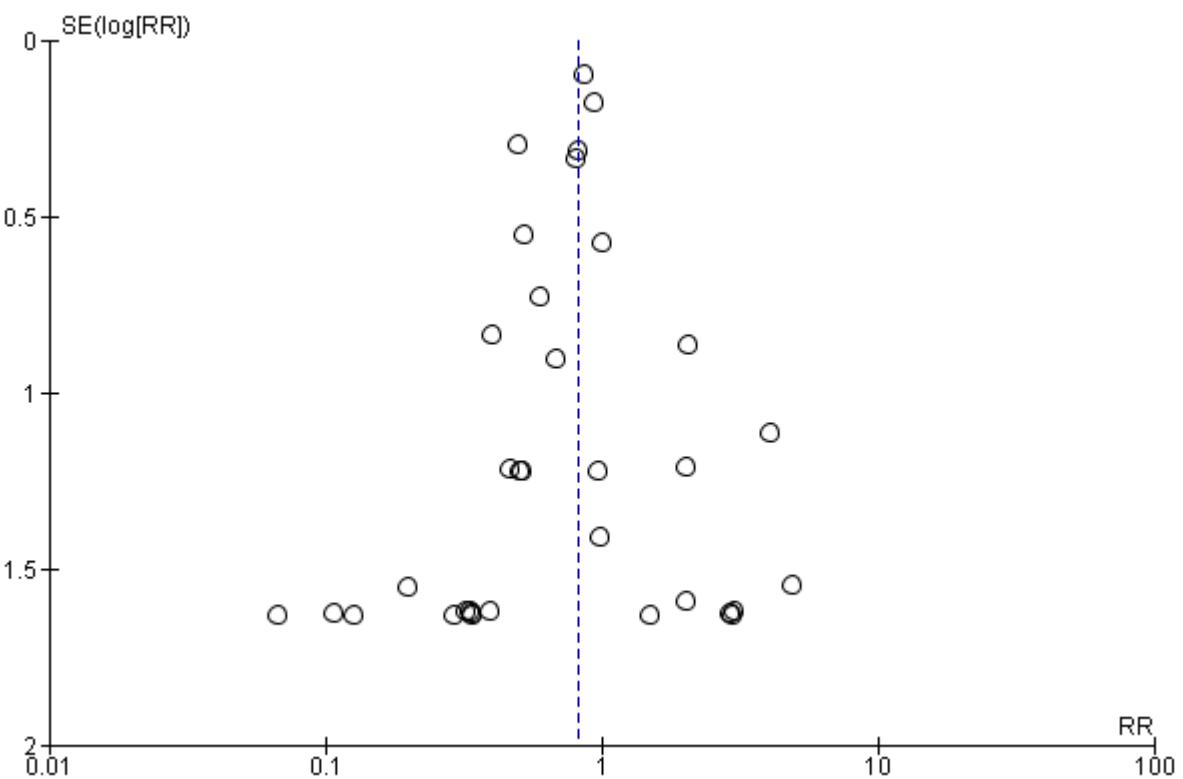


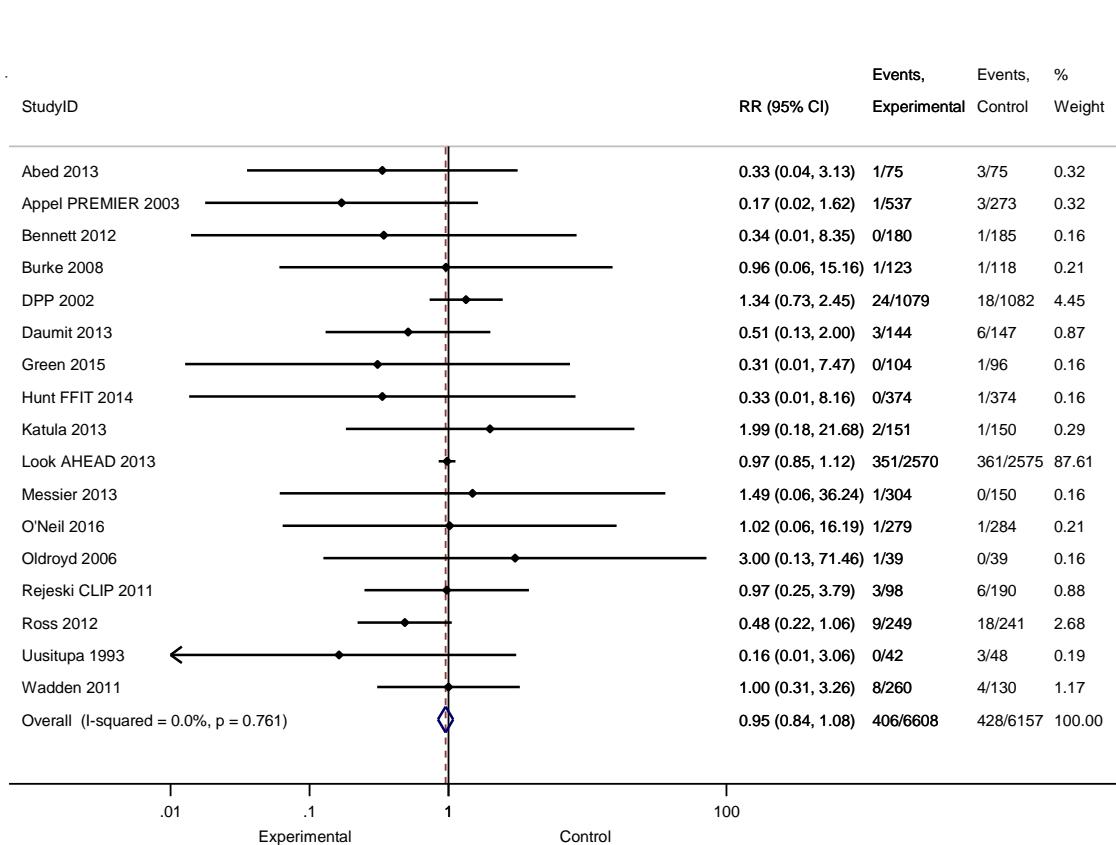
## Appendix Figure 1: Risk of bias assessment



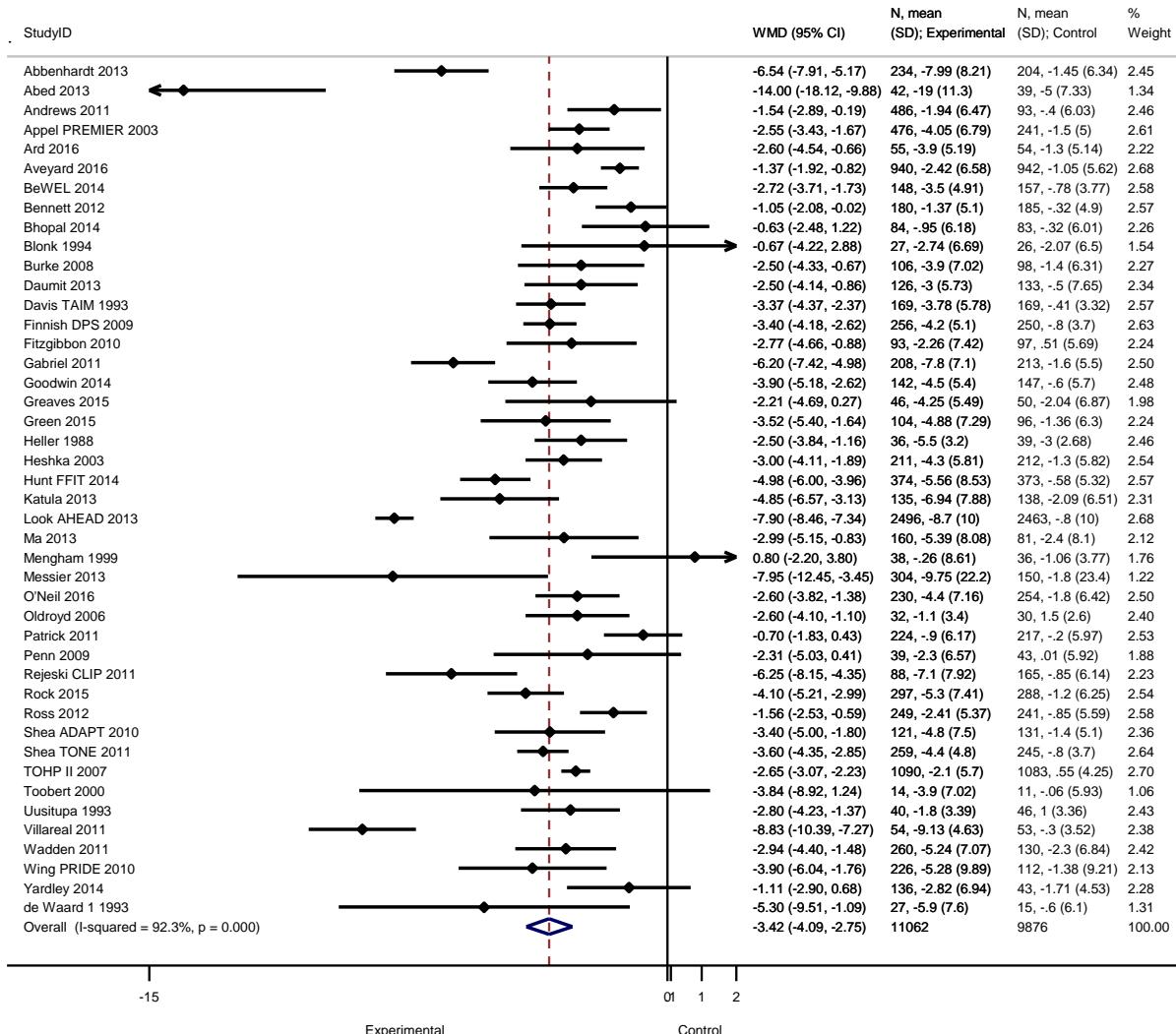
**Appendix Figure 2: Funnel plot for all-cause mortality**



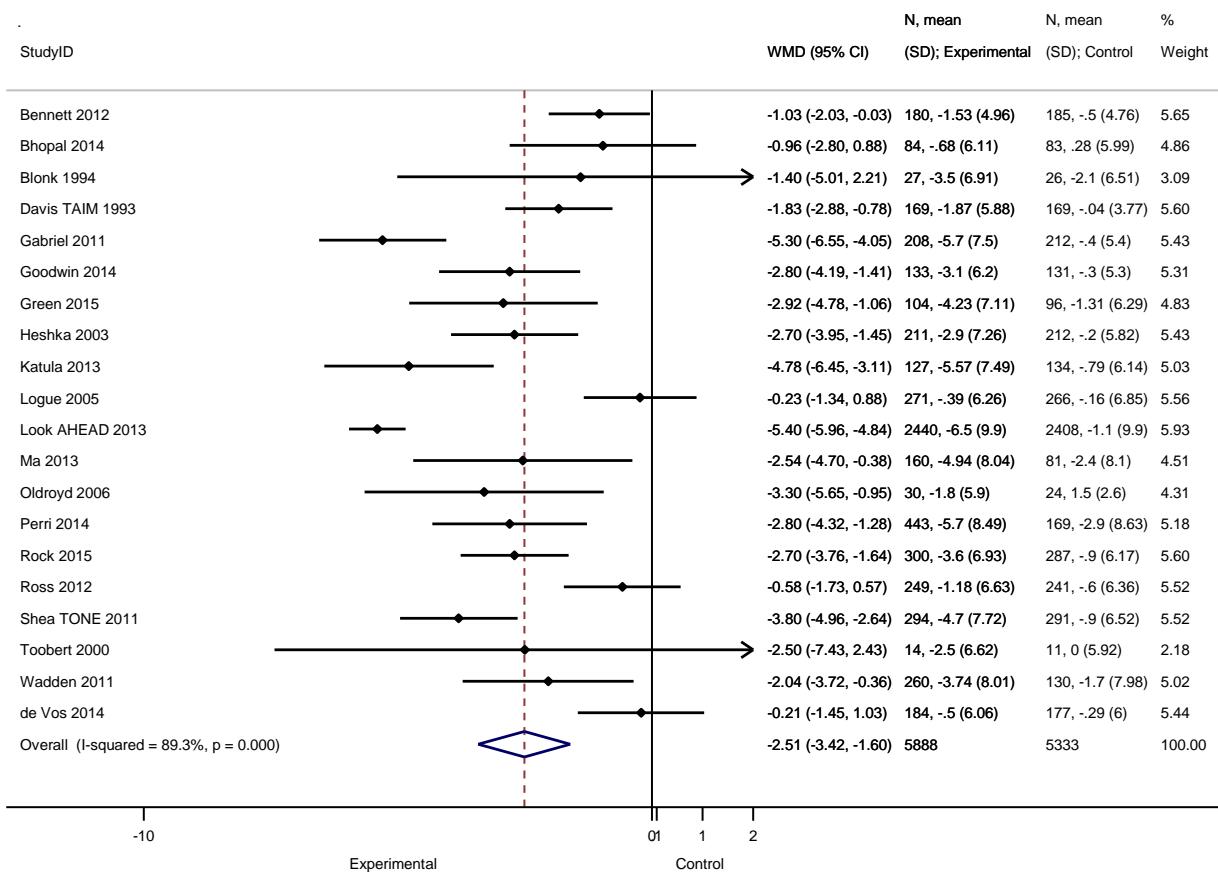
**Appendix Figure 3: Random effects meta-analysis of the effects of weight loss interventions on participants with a cardiovascular event (ACC/AHA defined events)**



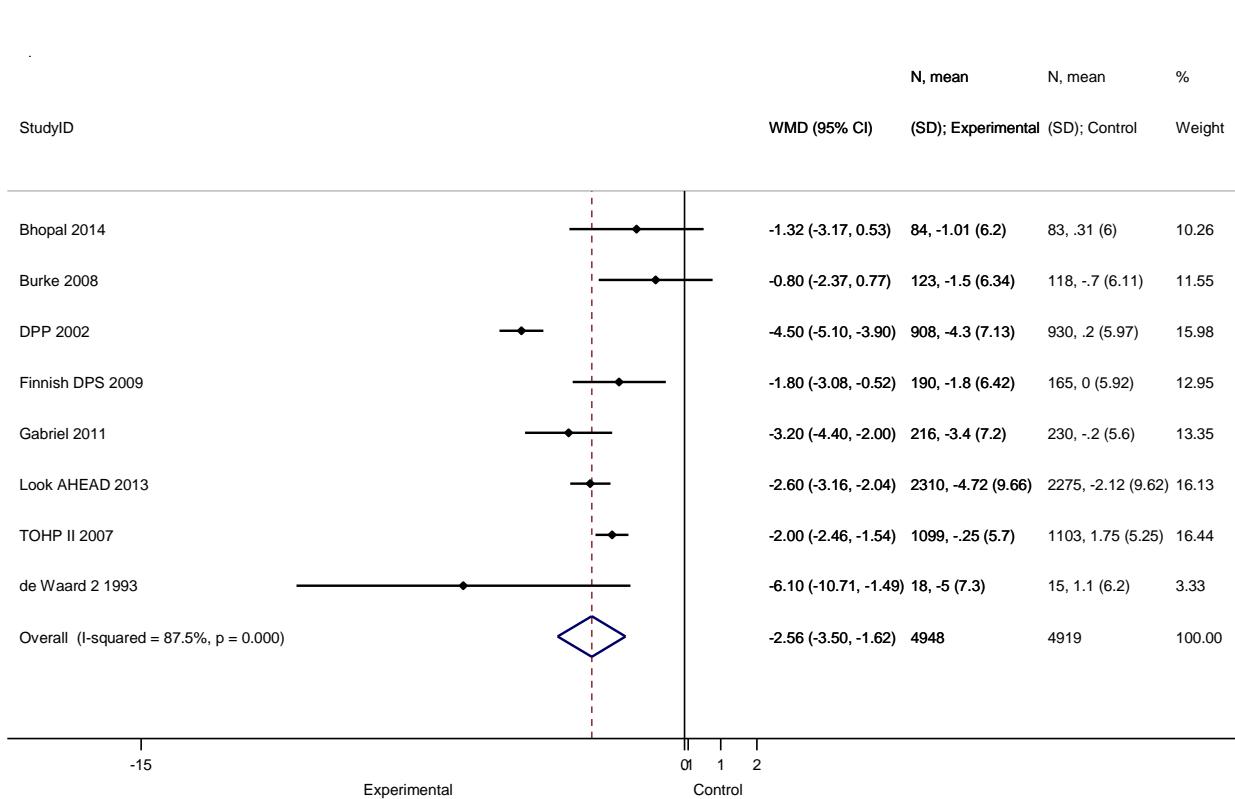
**Appendix Figure 4: Random effects meta-analysis of the effects of weight loss interventions on weight change in kg after one year**



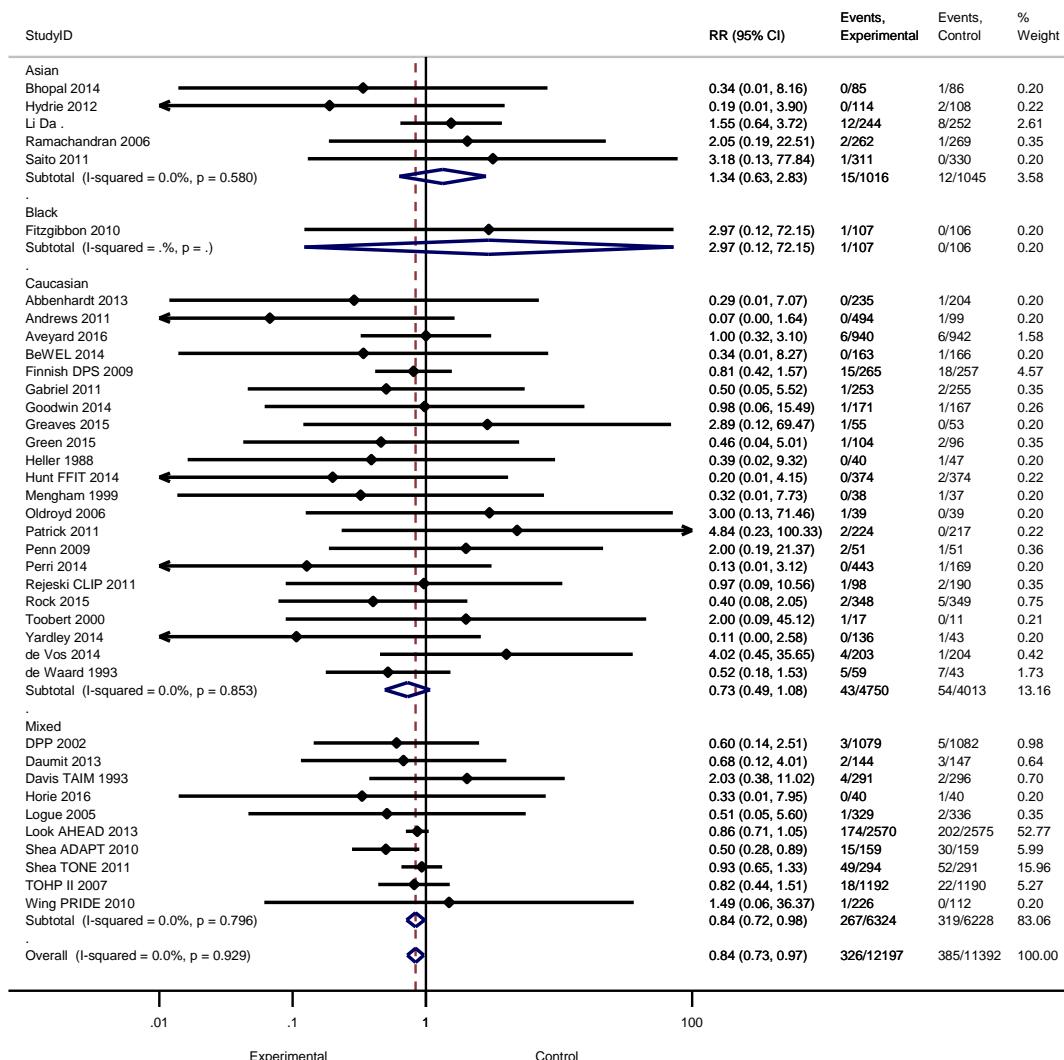
**Appendix Figure 5: Random effects meta-analysis of the effects of weight loss interventions on weight change in kg after two years**



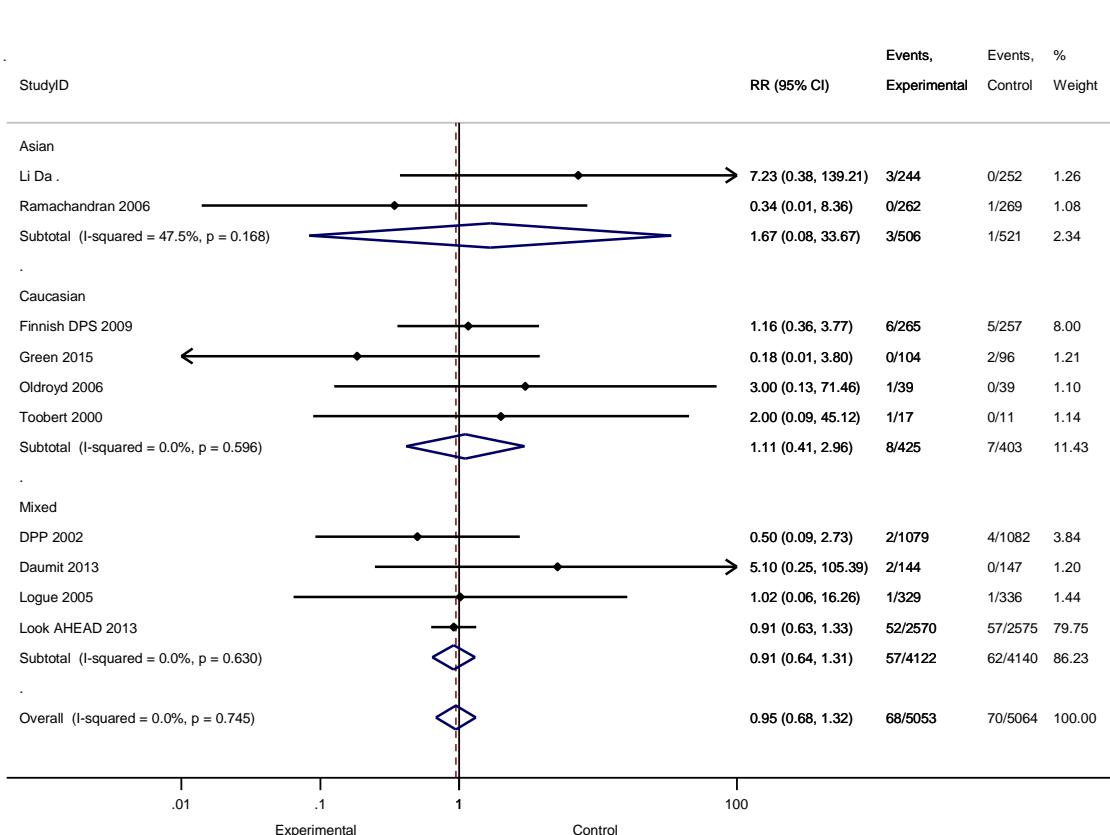
**Appendix Figure 6: Random effects meta-analysis of the effects of weight loss interventions on weight change in kg after three or more years**



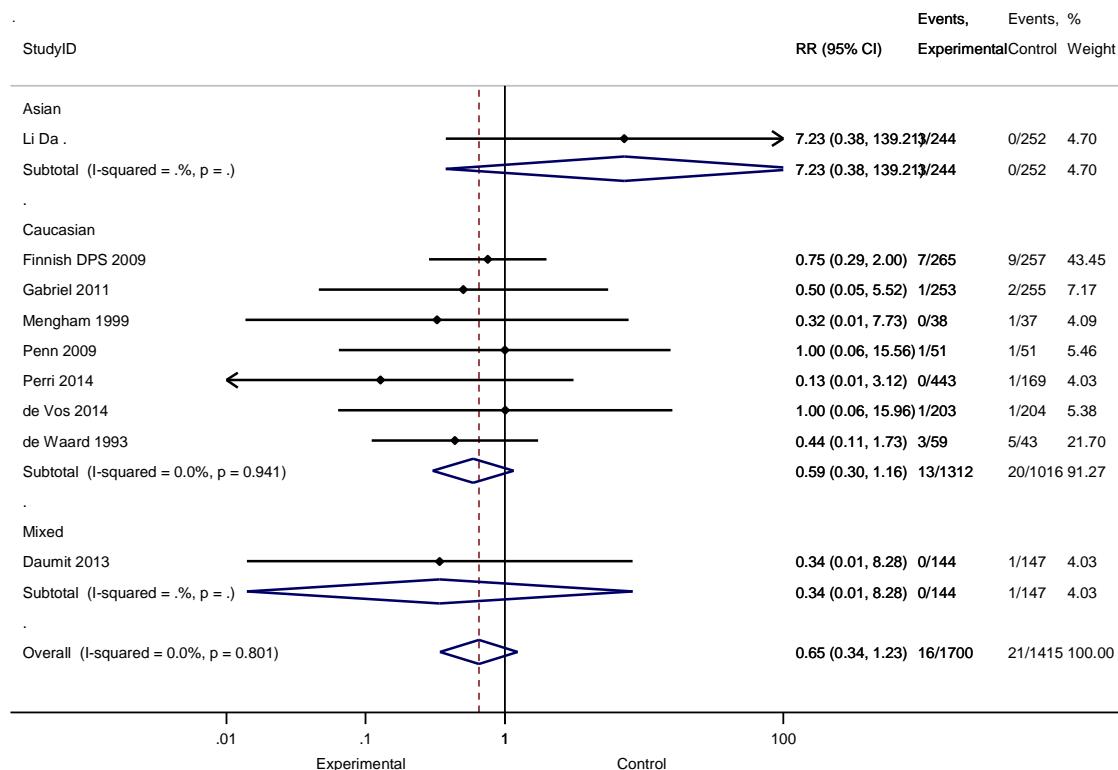
**Appendix Figure 7: Random effects meta-analysis of the effects of weight loss interventions on all-cause mortality including Asian populations**



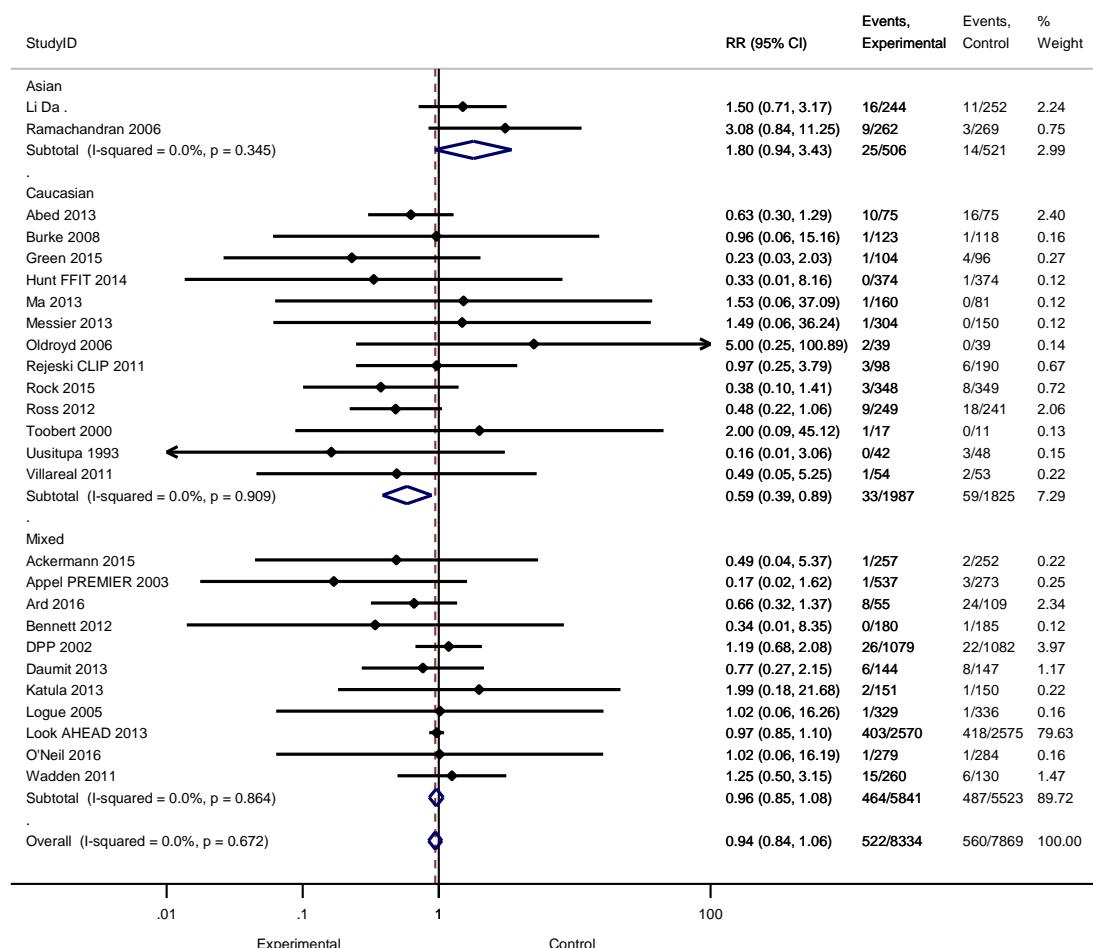
**Appendix Figure 8: Random effects meta-analysis of the effects of weight loss interventions on cardiovascular mortality including Asian populations**



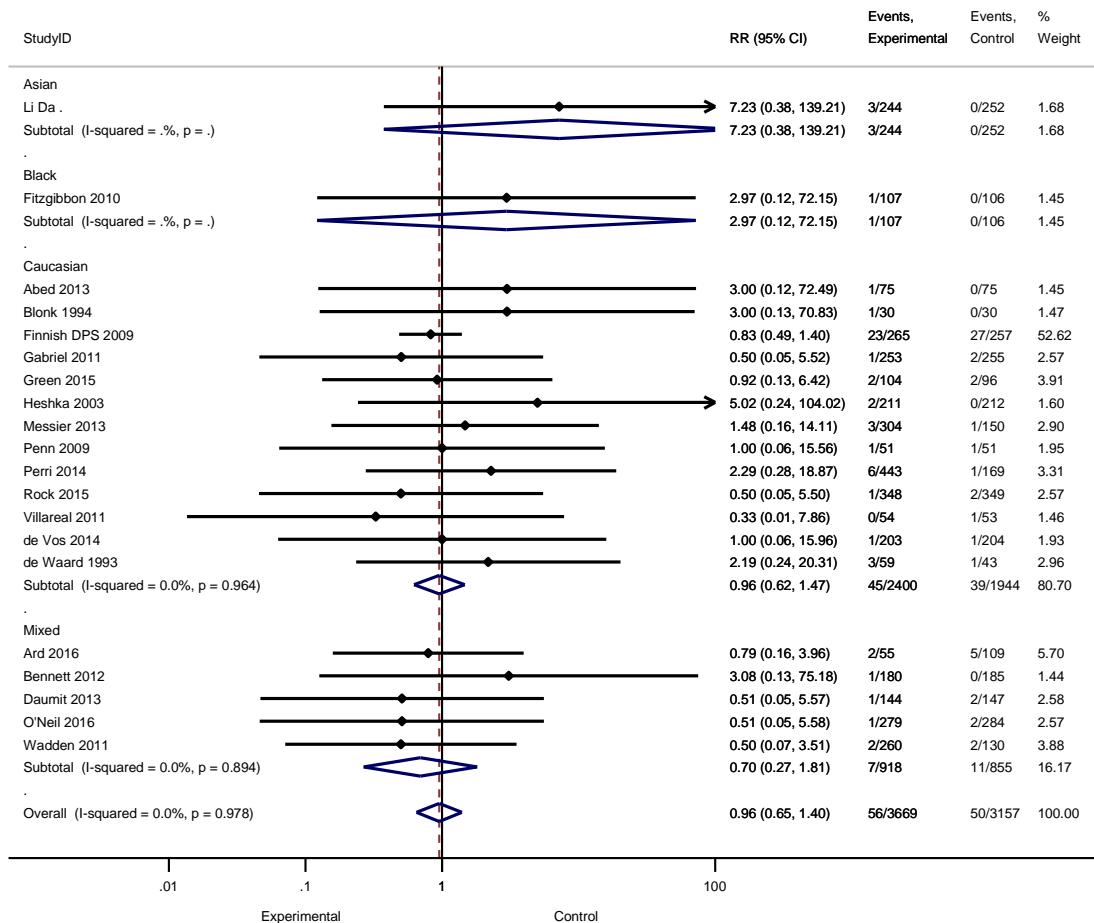
**Appendix Figure 9: Random effects meta-analysis of the effects of weight loss interventions cancer mortality including Asian populations**



**Appendix Figure 10: Random effects meta-analysis of the effects of weight loss interventions on participants with a cardiovascular event including Asian populations**



**Appendix Figure 11: Random effects meta-analysis of the effects of weight loss interventions on participants developing cancer including Asian populations**



**Appendix Table 1: All-cause mortality data and available data on cardiovascular and cancer mortality**

Trial	Total mortality	Cardiovascular mortality	Cancer mortality
Abbenhardt 2013	0/235 v 1/204		
Andrews 2011	0/494 v 1/99		
Aveyard 2016	6/940 v 6/942		
BeWEL 2014	0/163 v 1/166		
Bhopal 2014	0/85 v 1/86		
DPP 2002	3/1079 v 5/1082	2/1079 v 4/1082	
Daumit 2013	2/144 v 3/147	2/144 v 0/147	0/144 v 1/147
Davis TAIM 1993	4/291 v 2/296		
Finnish DPS 2009	15/265 v 18/257	6/265 v 5/257	7/265 v 9/257
Fitzgibbon 2010	1/107 v 0/106		
Gabriel 2011	1/253 v 2/255		1/253 v 2/255
Goodwin 2014	1/171 v 1/167		
Greaves 2015	1/55 v 0/53		
Green 2015	1/104 v 2/96	0/104 v 2/96	
Heller 1988	0/40 v 1/47		
Horie 2016	0/40 v 1/40		
Hunt FFIT 2014	0/374 v 2/374		
Logue 2005	1/329 v 2/336	1/329 v 1/336	
Look AHEAD 2013	174/2570 v 202/2575	52/2570 v 57/2575	
Mengham 1999	0/38 v 1/37		0/38 v 1/37
Oldroyd 2006	1/39 v 0/39	1/39 v 0/39	
Patrick 2011	2/224 v 0/217		

Penn 2009	2/51    v    1/51		1/51    v    1/51
Perri 2014	0/443    v    1/169		0/443    v    1/169
Rejeski CLIP 2011	1/98    v    2/190		
Rock 2015	2/348    v    5/349		
Shea ADAPT 2010	15/159    v    30/159		
Shea TONE 2011	49/294    v    52/291		
TOHP II 2007	18/1192    v    22/1190		
Toobert 2000	1/17    v    0/11	1/17    v    0/11	
Wing PRIDE 2010	1/226    v    0/112		
Yardley 2014	0/136    v    1/43		
de Vos 2014	4/203    v    1/204		1/203    v    1/204
de Waard 1993	5/59    v    7/43		3/59    v    5/43

**Appendix Table 2: Cancer event data – details of trials requiring adjudication decisions**

Trial ID	Interventions with reducing diet	Interventions without reducing diet	Notes
	Participants with event	Participants with event	
Ard 2016	<b>Deaths from cancer</b> 0	<b>Deaths from cancer</b> 0	
	<b>Participants with new cancer</b> 2	<b>Participants with new cancer</b> 5	Appendix Table 3, exercise only group taken as control. Neoplastic disorders interpreted as cancers. Footnote at bottom of Figure 1 indicates 3 participants diagnosed with cancer after randomisation and before intervention started, not counted in analysis.
de Vos 2016	<b>Deaths from cancer</b> 1	<b>Deaths from cancer</b> 1	Author confirmed that there was one death from colon cancer (intervention group), and one from leukemia (control group). Author unable to provide cause of death for two participants. One participant died from upper respiratory tract infection.
	<b>Participants with new cancer</b> 1	<b>Participants with new cancer</b> 1	
Gabriel 2011	<b>Deaths from cancer</b> 1	<b>Deaths from cancer</b> 2	
	<b>Participants with new cancer</b> 1	<b>Participants with new cancer</b> 2	Kuller 2006 p963 indicated recruited if no history of cancer in the last two years. So deaths from cancer in Gabriel 2011 p761 counted as new cancers.
Perri 2014	<b>Deaths from cancer</b> 0	<b>Deaths from cancer</b> 1	
	<b>Participants with new cancer</b> 6	<b>Participants with new cancer</b> 1	Perri 2014, used data from flow chart on page 2295, all 3 treatment groups combined. For high dose group 3 were diagnosed with cancer or other serious illness. We have used 3 cancers, as best available data.  We have also presumed that participant dying from cancer in the control group was also a new cancer. Exclusion criteria don't

			mention cancer, but unlikely someone with overt cancer would be recruited.
<b>Rock 2015</b>	<b>Death from cancer</b> <b>0</b>	<b>Deaths from cancer</b> <b>0</b>	
	<b>Participants with new cancer</b> <b>1</b>	<b>Participants with new cancer</b> <b>2</b>	Data for cancer taken from supplemental table. Unable to include breast cancer as included in other breast diseases.
<b>Wadden 2011</b>	<b>Deaths from cancer</b> <b>0</b>	<b>Deaths from cancer</b> <b>0</b>	
	<b>Participants with new cancer</b> <b>2</b>	<b>Participants with new cancer</b> <b>2</b>	Wadden 2011 page 1977 indicates no deaths. Both intervention groups combined for our review. Events taken from Table 3 in supplementary appendix – presumed new cancers. Presumed participants and not double counting. Protocol indicated on page 13 that cancer diagnosis or treatment within 2y were reasons for exclusion.

Where specific exclusion criteria were listed for trials, most/all indicated that potential participants with recent cancer diagnosis or treatment were excluded. Therefore, we considered cancer events during these studies as new cancers.

**Appendix Table 3: Cardiac event data – details of adjudication decisions**

Where data remain unclarified we were unable to obtain further information from the authors

Trial	Interventions with reducing diet	Interventions without reducing diet	Notes on interpretation
<b>Abed 2013</b>			
CVD deaths			
Ppts with CVD events	10	16	
Ppts with ACC events	1	3	Only acute worsening of progressive cardiac failure and acute coronary syndrome counted for ACC events.
<b>Ackermann 2015</b>			
CVD deaths	0	0	
Ppts with CVD events	1	2	
Ppts with ACC events	0	0	Insufficient information to allow ACC classification of events.
<b>Appel PREMIER 2003</b>			
CVD deaths	0		
Ppts with CVD events	1	3	
Ppts with ACC events	1	3	
<b>Ard 2016</b>			
CVD deaths			
Ppts with CVD events	8	24	Exercise only group used as control.
Ppts with ACC events	0	0	Insufficient information to allow ACC classification of events.
<b>Bennet 2012</b>			
CVD deaths			
Ppts with CVD events	0	1	Described as 'cardiac event' with no other details.
Ppts with ACC events	0	1	
<b>Burke 2008</b>			
CVD deaths			
Ppts with CVD events	1	1	
Ppts with ACC events	1	1	

<b>DPP 2002</b>			
CVD deaths	2	4	
Ppts with CVD events	26	22	
Ppts with ACC events	26	22	
<b>Daumit 2013</b>			
CVD deaths	2	0	
Ppts with CVD events	6	8	Chest pain with no further description not counted.
Ppts with ACC events	5	6	
<b>Finnish DPS 2009</b>			
CVD deaths	6	5	
Ppts with CVD events			Available event data include people developing hypertension, and excluded people developing pulmonary embolism or deep venous thrombosis. Thus data on CVD events not used – investigators reported 73 intervention v 71 control.
Ppts with ACC events	6	5	
<b>Green 2015</b>			
CVD deaths	0	2	
Ppts with CVD events	1	4	
Ppts with ACC events	0	3	ACC events exclude participants with arrhythmias.
<b>Hunt FFIT 2014</b>			
CVD deaths			
Ppts with CVD events	0	1	Did not count loss of consciousness due to angina drugs or hospitalised with suspected heart attack in intervention group.
Ppts with ACC events	0	1	
<b>Katula 2013</b>			
CVD deaths			
Ppts with CVD events	2	1	CVD events not specified.
Ppts with ACC events	2	1	

<b>Li Da Qing 2014</b>			
CVD deaths	3	0	Data adjusted for clustering, taken from systematic review data in Glechner A, et al. Diabetologia 2015;58:242-54.
Ppts with CVD events	16	11	
Ppts with ACC events			
<b>Logue 2005</b>			
CVD deaths	1	1	Investigator reported that one death in each group due to 'probable heart attack'.
Ppts with CVD events	1	1	
Ppts with ACC events	1	1	
<b>Look AHEAD 2013</b>			
CVD deaths	52	57	
Ppts with CVD events	403	418	Data include deaths from CVD cause. Other endpoints with more participants with events not used as these include all-cause mortality.
Ppts with ACC events	403	418	
<b>Ma 2013</b>			
CVD deaths			
Ppts with CVD events	1	0	
Ppts with ACC events	0	0	Chronic subdural haematoma not ACC defined event.
<b>Messier 2013</b>			
CVD deaths			
Ppts with CVD events	1	0	One case of 'heart palpitations' not included.
Ppts with ACC events	1	0	
<b>Oldroyd 2006</b>			
CVD deaths	1	0	
Ppts with CVD events	2	0	
Ppts with ACC events	2	0	
<b>O'Neil 2016</b>			
CVD deaths			
Ppts with CVD events	1	1	
Ppts with ACC events	1	1	

<b>Ramachandran 2006</b>			
CVD deaths	0	1	One death following surgery for cerebrovascular accident in control groups.
Ppts with CVD events	9	3	
Ppts with ACC events			
<b>Rejeski CLIP 2011</b>			
CVD deaths			
Ppts with CVD events	3	6	Data for 'patients with circulatory events' used.
Ppts with ACC events	3	6	
<b>Rock 2015</b>			
CVD deaths	0	0	
Ppts with CVD events	3	8	Data taken from supplemental table.
Ppts with ACC events	0	0	Insufficient information to allow ACC classification of events.
<b>Ross 2012</b>			
CVD deaths			
Ppts with CVD events	9	18	Data taken for 'potential cardiovascular event requiring hospitalisation'.
Ppts with ACC events	9	18	
<b>Toobert 2000</b>			
CVD deaths	1	0	
Ppts with CVD events	1	0	
Ppts with ACC events	1	0	
<b>Uusitupa 1993</b>			
CVD deaths			
Ppts with CVD events	0	3	3 participants with atrial fibrillation also, but investigator unable to say which groups.
Ppts with ACC events	0	3	
<b>Villareal 2011</b>			
CVD deaths			
Ppts with CVD events	1	2	Participants with adverse event of atrial fibrillation, not ACC defined event.

Ppts with ACC events	0	0	
<b>Wadden 2011</b>			
CVD deaths			
Ppts with CVD events	15	6	Data in publication given for adverse events, cannot exclude double-counting. Included atrial flutter, atrial fibrillation and angina, not ACC defined events.
Ppts with ACC events	8	4	

ACC composite non-fatal events = myocardial infarction, unstable angina, percutaneous coronary intervention or coronary artery bypass grafting, stroke, transient ischaemic attack, congestive heart failure, peripheral vascular intervention

Ppts - participants

CVD – cardiovascular disease

ACC - American College of Cardiology/American Heart Association guidelines

CVD and ACC events include CVD deaths - double counting cannot always be excluded

**Appendix Table 4: Summary of findings table and GRADE assessments**

Effects of weight loss interventions for adults who are obese on mortality, cardiovascular disease and cancer: a systematic review and meta-analysis

Setting: General population

Quality assessment							No of patients		Effect		Quality	Importance
No of studies	Design	Risk of bias	Inconsistency	Indirectness	Imprecision	Other considerations	Weight Loss Intervention	Control	Relative (95% CI)	Absolute		
<b>All-cause Mortality</b>												
34	Randomised trials	No serious risk of bias <sup>1</sup>	No serious inconsistency	No serious indirectness	No serious imprecision	None <sup>2</sup>	311/11266 (2.8%)	374/10433 (3.6%)	RR 0.82 (0.71 to 0.95)	6 fewer per 1000 (from 2 fewer to 10 fewer)	⊕⊕⊕⊕ HIGH	CRITICAL
								0.9%		2 fewer per 1000 (from 0 fewer to 3 fewer)		
<b>Cancer Mortality</b>												
8	Randomised trials	Very serious <sup>3</sup>	No serious inconsistency	No serious indirectness	Very serious <sup>4</sup>	None <sup>5</sup>	13/1456 (0.9%)	21/1163 (1.8%)	RR 0.58 (0.3 to 1.11)	8 fewer per 1000 (from 13 fewer to 2 more)	⊕○○○ VERY LOW	CRITICAL
								1.4%		6 fewer per 1000 (from 10 fewer to 2 more)		
<b>Cardiovascular Mortality</b>												
8	Randomised trials	No serious risk of bias	No serious inconsistency	No serious indirectness	Serious <sup>6</sup>	None <sup>5</sup>	65/4547 (1.4%)	69/4543 (1.5%)	RR 0.93 (0.67 to 1.31)	1 fewer per 1000 (from 5 fewer to 5 more)	⊕⊕⊕ MODERATE	CRITICAL
								0.3%		0 fewer per 1000 (from 1 fewer to 1 more)		
<b>Cancer Event</b>												
19	Randomised trials	Very serious <sup>7</sup>	No serious inconsistency	No serious indirectness	Serious <sup>8</sup>	None	53/3425 (1.5%)	50/2905 (1.7%)	RR 0.92 (0.63 to 1.36)	1 fewer per 1000 (from 6 fewer to 6 more)	⊕○○○ VERY LOW	CRITICAL
								0.7%		1 fewer per 1000 (from 3 fewer to 3 more)		
<b>Any Cardiovascular Event</b>												

24	Randomised trials	No serious risk of bias	No serious inconsistency	No serious indirectness	No serious imprecision	None	497/7828 (6.3%)	546/7348 (7.4%)	RR 0.93 (0.83 to 1.04)	5 fewer per 1000 (from 13 fewer to 3 more)	⊕⊕⊕⊕ HIGH	CRITICAL
								1.6%		1 fewer per 1000 (from 3 fewer to 1 more)		

<sup>1</sup> Sequence generation was judged to be at low risk of bias in 20/34 trials, and allocation concealment was judged to be at low risk of bias in 13/34 trials. Remaining trials were judged to be "unclear" for both these domains. However, the biggest trial (54.6% weightage) was judged to be at low risk of bias.

<sup>2</sup> No evidence of publication bias on examining funnel plot.

<sup>3</sup> Sequence generation was judged to be unclear in 7/8 trials and allocation concealment was judged to be unclear in 5/8 trials.

<sup>4</sup> 95% CI is very wide (0.30 to 1.11) and crosses line of no effect.

<sup>5</sup> Funnel plot cannot be used as there are fewer than 10 trials, and publication bias was not suspected at the time of literature search.

<sup>6</sup> 95% CI is wide (0.67 to 1.31) and crosses line of no effect.

<sup>7</sup> The largest study (53.5% weightage) was judged unclear for both sequence generation and allocation concealment. Most of the remaining trials were also judged unclear for both these domains.

<sup>8</sup> 95% CI is wide (0.63 to 1.36) and crosses line of no effect.

**Appendix Table 5: Fixed effect and Bayesian meta-analyses****Fixed effect and Bayesian meta-analysis of the effects of weight loss interventions on all-cause mortality**

	<b>Model</b>	<b>OR</b>	<b>95% CrI</b>
Abbenhardt 2013	(a)	0.29	(0.01, 7.17)
	(b)	0.79	(0.49, 1.16)
	(c)	0.61	(0.20, 1.02)
	(d)	0.78	(0.41, 1.21)
Andrews 2011	(a)	0.07	(0.00, 1.63)
	(b)	0.79	(0.46, 1.12)
	(c)	0.58	(0.16, 0.95)
	(d)	0.77	(0.38, 1.17)
Aveyard 2016	(a)	1.00	(0.34, 2.97)
	(b)	0.81	(0.55, 1.19)
	(c)	0.68	(0.36, 1.19)
	(d)	0.80	(0.51, 1.27)
BeWEL 2014	(a)	0.34	(0.01, 8.41)
	(b)	0.79	(0.49, 1.17)
	(c)	0.61	(0.20, 1.04)
	(d)	0.78	(0.41, 1.22)
Bhopal 2014	(a)	0.33	(0.01, 8.16)
	(b)	0.79	(0.49, 1.17)
	(c)	0.62	(0.20, 1.03)
	(d)	0.78	(0.41, 1.22)
DPP 2002	(a)	0.63	(0.17, 2.42)
	(b)	0.79	(0.50, 1.14)
	(c)	0.63	(0.27, 1.04)
	(d)	0.78	(0.44, 1.17)
Daumit 2013	(a)	0.72	(0.14, 3.76)
	(b)	0.80	(0.51, 1.17)
	(c)	0.64	(0.27, 1.07)
	(d)	0.79	(0.44, 1.22)
Davis TAIM 1993	(a)	1.85	(0.39, 8.79)
	(b)	0.81	(0.56, 1.30)
	(c)	0.70	(0.36, 1.38)
	(d)	0.81	(0.53, 1.45)
Finnish DPS 2009	(a)	0.80	(0.40, 1.61)
	(b)	0.80	(0.56, 1.11)
	(c)	0.69	(0.41, 1.08)
	(d)	0.79	(0.52, 1.14)
Fitzgibbon 2010	(a)	3.02	(0.12, 74.74)
	(b)	0.80	(0.52, 1.25)
	(c)	0.66	(0.27, 1.23)
	(d)	0.80	(0.47, 1.37)
Gabriel 2011	(a)	0.60	(0.08, 4.62)
	(b)	0.79	(0.50, 1.17)
	(c)	0.63	(0.24, 1.05)
	(d)	0.78	(0.42, 1.22)
Goodwin 2014	(a)	0.97	(0.10, 9.51)
	(b)	0.80	(0.51, 1.21)
	(c)	0.64	(0.25, 1.12)
	(d)	0.79	(0.45, 1.28)
Greaves 2015	(a)	2.93	(0.12, 73.77)
	(b)	0.80	(0.52, 1.25)

	(c)	0.66	(0.27, 1.22)
	(d)	0.80	(0.47, 1.38)
Green 2015	(a)	0.55	(0.07, 4.22)
	(b)	0.79	(0.50, 1.16)
	(c)	0.62	(0.23, 1.05)
	(d)	0.78	(0.42, 1.22)
Heller 1988	(a)	0.38	(0.02, 9.47)
	(b)	0.79	(0.49, 1.17)
	(c)	0.62	(0.21, 1.04)
	(d)	0.78	(0.41, 1.23)
Horie 2016	(a)	0.33	(0.01, 8.37)
	(b)	0.79	(0.49, 1.17)
	(c)	0.62	(0.21, 1.04)
	(d)	0.78	(0.41, 1.21)
Hunt FFIT 2014	(a)	0.20	(0.01, 4.20)
	(b)	0.79	(0.48, 1.15)
	(c)	0.60	(0.19, 0.98)
	(d)	0.77	(0.39, 1.17)
Logue 2005	(a)	0.61	(0.08, 4.70)
	(b)	0.79	(0.50, 1.17)
	(c)	0.63	(0.24, 1.06)
	(d)	0.78	(0.43, 1.22)
Look AHEAD 2013	(a)	0.85	(0.69, 1.05)
	(b)	0.82	(0.69, 0.99)
	(c)	0.80	(0.66, 0.99)
	(d)	0.83	(0.69, 1.00)
Mengham 1999	(a)	0.32	(0.01, 8.00)
	(b)	0.79	(0.49, 1.17)
	(c)	0.61	(0.20, 1.03)
	(d)	0.78	(0.41, 1.21)
Oldroyd 2006	(a)	3.09	(0.12, 78.26)
	(b)	0.80	(0.52, 1.25)
	(c)	0.66	(0.27, 1.23)
	(d)	0.80	(0.47, 1.39)
Patrick 2011	(a)	4.86	(0.24, 103.13)
	(b)	0.81	(0.53, 1.28)
	(c)	0.68	(0.32, 1.37)
	(d)	0.81	(0.50, 1.49)
Penn 2009	(a)	1.68	(0.21, 13.26)
	(b)	0.81	(0.54, 1.25)
	(c)	0.67	(0.30, 1.23)
	(d)	0.80	(0.48, 1.38)
Perri 2014	(a)	0.13	(0.01, 3.13)
	(b)	0.79	(0.47, 1.14)
	(c)	0.59	(0.18, 0.98)
	(d)	0.78	(0.40, 1.18)
Rejeski CLIP 2011	(a)	1.17	(0.15, 8.89)
	(b)	0.80	(0.52, 1.22)
	(c)	0.65	(0.27, 1.15)
	(d)	0.79	(0.45, 1.28)
Rock 2015	(a)	0.45	(0.10, 2.02)
	(b)	0.79	(0.48, 1.11)
	(c)	0.61	(0.24, 0.98)
	(d)	0.77	(0.41, 1.13)
Shea ADAPT 2010	(a)	0.45	(0.24, 0.87)

	(b)	0.75	(0.45, 0.97)
	(c)	0.57	(0.30, 0.84)
	(d)	0.72	(0.40, 0.95)
Shea TONE 2011	(a)	0.92	(0.60, 1.41)
	(b)	0.82	(0.64, 1.12)
	(c)	0.77	(0.56, 1.14)
	(d)	0.82	(0.63, 1.15)
TOHP II 2007	(a)	0.82	(0.44, 1.53)
	(b)	0.80	(0.57, 1.10)
	(c)	0.69	(0.44, 1.08)
	(d)	0.79	(0.54, 1.12)
Toobert 2000	(a)	2.09	(0.08, 54.87)
	(b)	0.80	(0.51, 1.23)
	(c)	0.65	(0.26, 1.19)
	(d)	0.80	(0.46, 1.36)
Wing PRIDE 2010	(a)	1.49	(0.06, 36.53)
	(b)	0.80	(0.51, 1.22)
	(c)	0.64	(0.25, 1.15)
	(d)	0.79	(0.46, 1.35)
Yardley 2014	(a)	0.10	(0.00, 2.66)
	(b)	0.79	(0.47, 1.13)
	(c)	0.59	(0.18, 0.97)
	(d)	0.78	(0.39, 1.18)
de Vos 2014	(a)	3.06	(0.47, 19.67)
	(b)	0.82	(0.56, 1.34)
	(c)	0.71	(0.38, 1.53)
	(d)	0.82	(0.54, 1.57)
de Waard 1993	(a)	0.49	(0.15, 1.59)
	(b)	0.78	(0.48, 1.08)
	(c)	0.61	(0.27, 0.97)
	(d)	0.77	(0.42, 1.10)
Overall	(a)	0.81	(0.70, 0.95)
	(b)	0.79	(0.63, 0.97)
	(c)	0.63	(0.41, 0.81)
	(d)	0.78	(0.59, 0.96)

(a) Fixed effect

(b) Approximate normal likelihood, random effects

(c) Binomial likelihood, random effects, uniform risks

(d) Binomial likelihood, random effects, uniform logits

Crl Credible interval

### Bayesian meta-analysis of the effects of weight loss interventions on cardiovascular mortality

	Model	OR	95% Crl
DPP 2002	(a)	0.55	(0.12, 2.59)
	(b)	0.88	(0.29, 1.97)
	(c)	0.69	(0.17, 1.47)
	(d)	0.83	(0.17, 2.20)

Daumit 2013	(a)	5.22	(0.25, 110.17)
	(b)	1.04	(0.42, 5.92)
	(c)	0.86	(0.30, 3.93)
	(d)	1.25	(0.45, 48.81)
Finnish DPS 2009	(a)	1.15	(0.36, 3.66)
	(b)	1.00	(0.49, 2.38)
	(c)	0.83	(0.37, 1.99)
	(d)	1.02	(0.44, 2.98)
Green 2015	(a)	0.18	(0.01, 3.82)
	(b)	0.88	(0.17, 2.40)
	(c)	0.64	(0.05, 1.41)
	(d)	0.76	(0.02, 2.30)
Logue 2005	(a)	1.02	(0.11, 9.76)
	(b)	0.96	(0.33, 3.13)
	(c)	0.75	(0.16, 2.06)
	(d)	0.98	(0.19, 6.28)
Look AHEAD 2013	(a)	0.91	(0.62, 1.33)
	(b)	0.93	(0.65, 1.32)
	(c)	0.86	(0.61, 1.24)
	(d)	0.92	(0.64, 1.32)
Oldroyd 2006	(a)	3.08	(0.12, 79.28)
	(b)	1.01	(0.37, 5.02)
	(c)	0.80	(0.20, 2.94)
	(d)	1.12	(0.31, 37.75)
Toobert 2000	(a)	2.11	(0.08, 57.57)
	(b)	0.99	(0.34, 4.48)
	(c)	0.78	(0.17, 2.63)
	(d)	1.09	(0.27, 37.30)
Overall	(a)	0.93	(0.67, 1.31)
	(b)	0.96	(0.49, 2.14)
	(c)	0.77	(0.29, 1.47)
	(d)	1.00	(0.37, 4.49)

(a) Fixed effect

(b) Approximate normal likelihood, random effects

(c) Binomial likelihood, random effects, uniform risks

(d) Binomial likelihood, random effects, uniform logits

### Bayesian meta-analysis of the effects of weight loss interventions on cancer mortality

	Model	OR	95% CrI
Daumit 2013	(a)	0.33	(0.01, 8.36)
	(b)	0.58	(0.12, 2.01)
	(c)	0.24	(0.00, 1.01)
	(d)	0.43	(0.02, 1.76)
Finnish DPS 2009	(a)	0.76	(0.28, 2.02)
	(b)	0.64	(0.31, 1.43)
	(c)	0.51	(0.20, 1.28)
	(d)	0.59	(0.26, 1.44)
Gabriel 2011	(a)	0.61	(0.08, 4.76)
	(b)	0.60	(0.19, 1.84)

	(c)	0.32	(0.04, 1.32)
	(d)	0.48	(0.08, 1.78)
Mengham 1999	(a)	0.33	(0.01, 8.22)
	(b)	0.58	(0.14, 1.90)
	(c)	0.25	(0.00, 1.01)
	(d)	0.44	(0.02, 1.63)
Penn 2009	(a)	1.00	(0.10, 10.11)
	(b)	0.63	(0.21, 2.25)
	(c)	0.36	(0.05, 1.74)
	(d)	0.54	(0.10, 2.51)
Perri 2014	(a)	0.13	(0.00, 3.40)
	(b)	0.55	(0.10, 1.56)
	(c)	0.20	(0.00, 0.80)
	(d)	0.41	(0.02, 1.38)
de Vos 2014	(a)	0.98	(0.10, 9.91)
	(b)	0.63	(0.21, 2.26)
	(c)	0.36	(0.05, 1.69)
	(d)	0.53	(0.11, 2.95)
de Waard 1993	(a)	0.44	(0.11, 1.81)
	(b)	0.56	(0.20, 1.40)
	(c)	0.34	(0.08, 0.98)
	(d)	0.46	(0.13, 1.29)
Overall	(a)	0.60	(0.32, 1.12)
	(b)	0.59	(0.25, 1.36)
	(c)	0.30	(0.03, 0.79)
	(d)	0.46	(0.11, 1.25)

(a) Fixed effect

(b) Approximate normal likelihood, random effects

(c) Binomial likelihood, random effects, uniform risks

(d) Binomial likelihood, random effects, uniform logits

### Bayesian meta-analysis of the effects of weight loss interventions on participants with a cardiovascular event

	Model	OR	95% CrI
Abed 2013	(a)	0.58	(0.25, 1.34)
	(b)	0.83	(0.45, 1.16)
	(c)	0.63	(0.31, 1.05)
	(d)	0.79	(0.40, 1.16)
Ackermann 2015	(a)	0.59	(0.08, 4.47)
	(b)	0.87	(0.44, 1.36)
	(c)	0.63	(0.22, 1.22)
	(d)	0.83	(0.35, 1.43)
Appel PREMIER 2003	(a)	0.22	(0.03, 1.48)
	(b)	0.84	(0.38, 1.23)
	(c)	0.55	(0.17, 1.04)
	(d)	0.79	(0.29, 1.24)
Ard 2016	(a)	0.63	(0.26, 1.47)

	(b)	0.84	(0.47, 1.19)
	(c)	0.65	(0.32, 1.08)
	(d)	0.80	(0.41, 1.17)
Bennett 2012	(a)	0.34	(0.01, 8.34)
	(b)	0.86	(0.43, 1.38)
	(c)	0.62	(0.19, 1.21)
	(d)	0.83	(0.33, 1.45)
Burke 2008	(a)	0.96	(0.10, 9.25)
	(b)	0.87	(0.46, 1.43)
	(c)	0.66	(0.24, 1.34)
	(d)	0.85	(0.39, 1.57)
DPP 2002	(a)	1.18	(0.67, 2.08)
	(b)	0.93	(0.67, 1.45)
	(c)	0.89	(0.58, 1.51)
	(d)	0.94	(0.66, 1.53)
Daumit 2013	(a)	0.77	(0.27, 2.21)
	(b)	0.87	(0.49, 1.30)
	(c)	0.68	(0.33, 1.22)
	(d)	0.84	(0.43, 1.34)
Green 2015	(a)	0.30	(0.05, 1.93)
	(b)	0.85	(0.40, 1.26)
	(c)	0.58	(0.19, 1.06)
	(d)	0.80	(0.30, 1.25)
Hunt FFIT 2014	(a)	0.33	(0.01, 8.11)
	(b)	0.86	(0.42, 1.39)
	(c)	0.61	(0.19, 1.21)
	(d)	0.83	(0.32, 1.43)
Katula 2013	(a)	1.68	(0.22, 12.77)
	(b)	0.89	(0.50, 1.54)
	(c)	0.71	(0.29, 1.51)
	(d)	0.87	(0.44, 1.75)
Logue 2005	(a)	1.02	(0.11, 9.78)
	(b)	0.88	(0.47, 1.45)
	(c)	0.66	(0.24, 1.35)
	(d)	0.85	(0.39, 1.58)
Look AHEAD 2013	(a)	0.96	(0.83, 1.11)
	(b)	0.94	(0.81, 1.08)
	(c)	0.93	(0.80, 1.09)
	(d)	0.94	(0.81, 1.09)
Ma 2013	(a)	1.53	(0.06, 37.23)
	(b)	0.88	(0.47, 1.47)
	(c)	0.67	(0.24, 1.40)
	(d)	0.86	(0.40, 1.72)
Messier 2013	(a)	1.49	(0.06, 36.86)
	(b)	0.88	(0.46, 1.49)
	(c)	0.66	(0.24, 1.39)
	(d)	0.86	(0.40, 1.74)//
O'Neil 2016	(a)	1.02	(0.11, 10.00)
	(b)	0.88	(0.46, 1.45)
	(c)	0.66	(0.24, 1.35)
	(d)	0.85	(0.39, 1.58)
Oldroyd 2006	(a)	5.26	(0.25, 113.41)
	(b)	0.89	(0.50, 1.60)
	(c)	0.74	(0.31, 1.73)
	(d)	0.89	(0.46, 2.03)

Rejeski CLIP 2011	(a)	1.04	(0.28, 3.92)
	(b)	0.88	(0.51, 1.43)
	(c)	0.70	(0.31, 1.38)
	(d)	0.86	(0.43, 1.50)
Rock 2015	(a)	0.41	(0.12, 1.43)
	(b)	0.81	(0.39, 1.17)
	(c)	0.55	(0.22, 1.00)
	(d)	0.55	(0.21, 1.04)
Ross 2012	(a)	0.48	(0.21, 1.06)
	(b)	0.80	(0.41, 1.10)
	(c)	0.57	(0.28, 0.96)
	(d)	0.75	(0.36, 1.08)
Toobert 2000	(a)	2.09	(0.08, 56.71)
	(b)	0.88	(0.47, 1.51)
	(c)	0.68	(0.25, 1.46)
	(d)	0.86	(0.41, 1.72)
Uusitupa 1993	(a)	0.15	(0.01, 3.06)
	(b)	0.86	(0.40, 1.33)
	(c)	0.57	(0.16, 1.08)
	(d)	0.80	(0.28, 1.27)
Villareal 2011	(a)	0.58	(0.07, 4.59)
	(b)	0.87	(0.44, 1.36)
	(c)	0.63	(0.22, 1.23)
	(d)	0.83	(0.35, 1.43)
Wadden 2011	(a)	1.21	(0.47, 3.10)
	(b)	0.90	(0.58, 1.48)
	(c)	0.80	(0.45, 1.53)
	(d)	0.90	(0.56, 1.63)
Overall	(a)	0.91	(0.80, 1.04)
	(b)	0.84	(0.60, 1.05)
	(c)	0.62	(0.40, 0.87)
	(d)	0.61	(0.39, 0.85)

(a) Fixed effect

(b) Approximate normal likelihood, random effects

(c) Binomial likelihood, random effects, uniform risks

(d) Binomial likelihood, random effects, uniform logits

#### Bayesian meta-analysis of the effects of weight loss interventions on participants developing cancer

	Model	OR	95% CrI
Abed 2013	(a)	3.02	(0.12, 77.09)
	(b)	0.96	(0.50, 2.25)
	(c)	0.69	(0.32, 1.40)
	(d)	1.04	(0.48, 3.72)
Ard 2016	(a)	0.89	(0.19, 4.15)
	(b)	0.94	(0.49, 1.85)
	(c)	0.67	(0.33, 1.26)
	(d)	0.97	(0.42, 2.11)
Bennett 2012	(a)	3.10	(0.13, 76.10)
	(b)	0.96	(0.50, 2.29)
	(c)	0.69	(0.32, 1.40)
	(d)	1.04	(0.48, 3.72)
Blonk 1994	(a)	3.11	(0.12, 79.28)
	(b)	0.96	(0.49, 2.25)
	(c)	0.68	(0.32, 1.42)

	(d)	1.04	(0.48, 3.67)
Daumit 2013	(a)	0.61	(0.08, 4.64)
	(b)	0.92	(0.45, 1.82)
	(c)	0.66	(0.29, 1.21)
	(d)	0.96	(0.37, 2.23)
Finnish DPS 2009	(a)	0.81	(0.46, 1.45)
	(b)	0.89	(0.57, 1.38)
	(c)	0.71	(0.46, 1.12)
	(d)	0.91	(0.55, 1.46)
Fitzgibbon 2010	(a)	2.99	(0.12, 75.87)
	(b)	0.96	(0.50, 2.25)
	(c)	0.68	(0.32, 1.39)
	(d)	1.04	(0.48, 3.69)
Gabriel 2011	(a)	0.60	(0.08, 4.60)
	(b)	0.92	(0.45, 1.83)
	(c)	0.66	(0.29, 1.21)
	(d)	0.96	(0.37, 2.23)
Green 2015	(a)	0.92	(0.16, 5.48)
	(b)	0.94	(0.49, 1.92)
	(c)	0.68	(0.32, 1.28)
	(d)	0.99	(0.44, 2.48)
Heshka 2003	(a)	5.08	(0.25, 105.95)
	(b)	0.98	(0.52, 2.43)
	(c)	0.71	(0.36, 1.55)
	(d)	1.08	(0.54, 4.35)
Messier 2013	(a)	1.16	(0.17, 7.89)
	(b)	0.95	(0.50, 2.01)
	(c)	0.68	(0.34, 1.32)
	(d)	1.03	(0.49, 2.94)
O'Neil 2016	(a)	0.61	(0.08, 4.68)
	(b)	0.92	(0.45, 1.83)
	(c)	0.66	(0.29, 1.21)
	(d)	0.96	(0.37, 2.26)
Penn 2009	(a)	1.00	(0.10, 10.18)
	(b)	0.94	(0.48, 2.00)
	(c)	0.67	(0.30, 1.29)
	(d)	1.00	(0.42, 2.75)
Perri 2014	(a)	1.66	(0.28, 9.88)
	(b)	0.97	(0.53, 2.16)
	(c)	0.71	(0.39, 1.43)
	(d)	1.07	(0.56, 3.37)
Rock 2015	(a)	0.60	(0.08, 4.64)
	(b)	0.92	(0.45, 1.81)
	(c)	0.66	(0.29, 1.21)
	(d)	0.96	(0.37, 2.24)
Villareal 2011	(a)	0.32	(0.01, 8.03)
	(b)	0.92	(0.42, 1.90)
	(c)	0.65	(0.25, 1.19)
	(d)	0.96	(0.32, 2.36)
Wadden 2011	(a)	0.50	(0.09, 2.96)
	(b)	0.90	(0.43, 1.70)
	(c)	0.65	(0.29, 1.17)
	(d)	0.95	(0.37, 2.16)
de Vos 2014	(a)	1.00	(0.10, 9.70)
	(b)	0.94	(0.48, 2.00)

	(c)	0.67	(0.30, 1.28)
	(d)	1.00	(0.42, 2.74)
de Waard 1993	(a)	0.92	(0.63, 1.35)
	(b)	0.94	(0.62, 1.49)
	(c)	0.67	(0.43, 1.03)
	(d)	1.01	(0.62, 1.79)
Overall	(a)	3.02	(0.12, 77.09)
	(b)	0.96	(0.50, 2.25)
	(c)	0.69	(0.32, 1.40)
	(d)	1.04	(0.48, 3.72)

(a) Fixed effect

(b) Approximate normal likelihood, random effects

(c) Binomial likelihood, random effects, uniform risks

(d) Binomial likelihood, random effects, uniform logits

**Appendix Table 6: Results of subgroup and sensitivity analyses**

Outcome or Subgroup	Studies	Participants	Intervention (n Events / N Randomised)	Control (n Events / N Randomised)	Statistical Method	Effect Estimate	Heterogeneity I <sup>2</sup>	Heterogeneity Chi <sup>2</sup> , df	Test for Significance of Overall Effect: Z-value, (p-value)	Test for Subgroup Differences
1.1 All-cause Mortality	34	21699	311 / 11266	374 / 10433	Risk Ratio (M-H, Random, 95% CI)	0.82 [0.71, 0.95]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 21.14, df = 33 (P = 0.95); I <sup>2</sup> =0%	Z = 2.66 (P = 0.008)	
1.2 All-cause Mortality - Allocation concealment	34	21699	311 / 11266	374 / 10433	Risk Ratio (M-H, Random, 95% CI)	0.82 [0.71, 0.95]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 21.14, df = 33 (P = 0.95); I <sup>2</sup> =0%	Z = 2.66 (P = 0.008)	Chi <sup>2</sup> = 0.88, df = 1 (P = 0.35), I <sup>2</sup> = 0%
1.2.2 High or unclear risk of bias	21	8549	100 / 4451	132 / 4098	Risk Ratio (M-H, Random, 95% CI)	0.75 [0.59, 0.96]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 10.70, df = 20 (P = 0.95); I <sup>2</sup> =0%	Z = 2.33 (P = 0.02)	
1.2.3 Low risk of bias	13	13150	211 / 6815	242 / 6335	Risk Ratio (M-H, Random, 95% CI)	0.87 [0.72, 1.03]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 9.57, df = 12 (P = 0.65); I <sup>2</sup> = 0%	Z = 1.58 (P = 0.11)	
1.3 All-cause Mortality - FU	34	21699	311 / 11266	374 / 10433	Risk Ratio (M-H, Random, 95% CI)	0.82 [0.71, 0.95]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 21.14, df = 33 (P = 0.95); I <sup>2</sup> = 0%	Z = 2.66 (P = 0.008)	Chi <sup>2</sup> = 0.08, df = 1 (P = 0.78), I <sup>2</sup> = 0%
1.3.2 Follow-up less than 80%	11	7212	53 / 3649	66 / 3563	Risk Ratio (M-H, Random, 95% CI)	0.79 [0.53, 1.16]	I <sup>2</sup> = 5%	Chi <sup>2</sup> = 10.50, df = 10 (P = 0.40); I <sup>2</sup> = 5%	Z = 1.21 (P = 0.23)	
1.3.3 Follow-up 80% or more	23	14487	258 / 7617	308 / 6870	Risk Ratio (M-H, Random, 95% CI)	0.83 [0.71, 0.98]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 10.51, df = 22 (P = 0.98); I <sup>2</sup> = 0%	Z = 2.25 (P = 0.02)	
1.4 All-cause Mortality - Age	34	21699	311 / 11266	374 / 10433	Risk Ratio (M-H, Random, 95% CI)	0.82 [0.71, 0.95]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 21.14, df = 33 (P = 0.95); I <sup>2</sup> = 0%	Z = 2.66 (P = 0.008)	Chi <sup>2</sup> = 0.85, df = 2 (P = 0.65), I <sup>2</sup> = 0%
1.4.2 Unclear age	1	102	5 / 59	7 / 43	Risk Ratio (M-H, Random, 95% CI)	0.52 [0.18, 1.53]	Not applicable	Not applicable	Z = 1.19 (P = 0.24)	
1.4.3 Less than 60y	24	19448	238 / 10172	279 / 9276	Risk Ratio (M-H, Random, 95% CI)	0.84 [0.71, 1.00]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 15.17, df = 23 (P = 0.89); I <sup>2</sup> = 0%	Z = 1.99 (P = 0.05)	
1.4.4 60y or older	9	2149	68 / 1035	88 / 1114	Risk Ratio (M-H, Random, 95% CI)	0.79 [0.59, 1.06]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 5.13, df = 8 (P = 0.74); I <sup>2</sup> = 0%	Z = 1.59 (P = 0.11)	
1.5 All-cause Mortality - BMI	34	21699	311 / 11266	374 / 10433	Risk Ratio (M-H, Random, 95% CI)	0.82 [0.71, 0.95]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 21.14, df = 33 (P = 0.95); I <sup>2</sup> = 0%	Z = 2.66 (P = 0.008)	Chi <sup>2</sup> = 0.22, df = 1 (P = 0.64), I <sup>2</sup> = 0%

1.5.2 BMI less than 35kg/m <sup>2</sup>	24	12011	126 / 6182	156 / 5829	Risk Ratio (M-H, Random, 95% CI)	0.79 [0.63, 0.99]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 15.61, df = 23 (P = 0.87); I <sup>2</sup> = 0%	Z = 2.07 (P = 0.04)	
1.5.3 BMI 35kg/m <sup>2</sup> or more	10	9688	185 / 5084	218 / 4604	Risk Ratio (M-H, Random, 95% CI)	0.85 [0.70, 1.02]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 5.32, df = 9 (P = 0.81); I <sup>2</sup> = 0%	Z = 1.73 (P = 0.08)	
1.6 All-cause Mortality - DM	34	21699	311 / 11266	374 / 10433	Risk Ratio (M-H, Random, 95% CI)	0.82 [0.71, 0.95]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 21.14, df = 33 (P = 0.95); I <sup>2</sup> = 0%	Z = 2.66 (P = 0.008)	Chi <sup>2</sup> = 0.10, df = 2 (P = 0.95), I <sup>2</sup> = 0%
1.6.2 Type 2 Diabetes	4	5900	174 / 3142	205 / 2758	Risk Ratio (M-H, Random, 95% CI)	0.83 [0.62, 1.12]	I <sup>2</sup> = 1%	Chi <sup>2</sup> = 3.03, df = 3 (P = 0.39); I <sup>2</sup> = 1%	Z = 1.22 (P = 0.22)	
1.6.3 Impaired glucose tolerance or fasting glycaemia	5	3034	21 / 1519	25 / 1515	Risk Ratio (M-H, Random, 95% CI)	0.82 [0.47, 1.45]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 1.67, df = 4 (P = 0.80); I <sup>2</sup> = 0%	Z = 0.67 (P = 0.50)	
1.6.4 Other	25	12765	116 / 6605	144 / 6160	Risk Ratio (M-H, Random, 95% CI)	0.78 [0.62, 0.99]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 16.18, df = 24 (P = 0.88); I <sup>2</sup> = 0%	Z = 2.04 (P = 0.04)	
1.7 All-cause Mortality - Ethnicity	34	21699	311 / 11266	374 / 10433	Risk Ratio (M-H, Random, 95% CI)	0.82 [0.71, 0.95]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 21.14, df = 33 (P = 0.95); I <sup>2</sup> = 0%	Z = 2.66 (P = 0.008)	Chi <sup>2</sup> = 1.34, df = 3 (P = 0.72), I <sup>2</sup> = 0%
1.7.2 Mixed	10	12552	267 / 6324	319 / 6228	Risk Ratio (M-H, Random, 95% CI)	0.84 [0.72, 0.98]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 5.43, df = 9 (P = 0.80); I <sup>2</sup> = 0%	Z = 2.23 (P = 0.03)	
1.7.3 Caucasian	22	8763	43 / 4750	54 / 4013	Risk Ratio (M-H, Random, 95% CI)	0.73 [0.49, 1.08]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 14.38, df = 21 (P = 0.85); I <sup>2</sup> = 0%	Z = 1.59 (P = 0.11)	
1.7.4 Black	1	213	1 / 107	0 / 106	Risk Ratio (M-H, Random, 95% CI)	2.97 [0.12, 72.15]	Not applicable	Not applicable	Z = 0.67 (P = 0.50)	
1.7.5 Asian	1	171	0 / 85	1 / 86	Risk Ratio (M-H, Random, 95% CI)	0.34 [0.01, 8.16]	Not applicable	Not applicable	Z = 0.67 (P = 0.50)	
1.8 All-cause Mortality - Physical activity	34	21699	311 / 11266	374 / 10433	Risk Ratio (M-H, Random, 95% CI)	0.82 [0.71, 0.95]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 21.14, df = 33 (P = 0.95); I <sup>2</sup> = 0%	Z = 2.66 (P = 0.008)	Chi <sup>2</sup> = 1.22, df = 2 (P = 0.54), I <sup>2</sup> = 0%
1.8.2 No physical activity described	3	264	5 / 137	9 / 127	Risk Ratio (M-H, Random, 95% CI)	0.48 [0.18, 1.28]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 0.10, df = 2 (P = 0.95); I <sup>2</sup> = 0%	Z = 1.46 (P = 0.14)	
1.8.3 Physical activity advice	17	7708	22 / 4288	25 / 3420	Risk Ratio (M-H, Random, 95% CI)	0.78 [0.44, 1.37]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 11.64, df = 16 (P = 0.77); I <sup>2</sup> = 0%	Z = 0.87 (P = 0.38)	
1.8.4 Physical activity facility	14	13727	284 / 6841	340 / 6886	Risk Ratio (M-H, Random, 95% CI)	0.84 [0.72, 0.97]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 8.19, df = 13 (P = 0.83); I <sup>2</sup> = 0%	Z = 2.32 (P = 0.02)	

1.9 All-cause Mortality - Sex	34	21699	311 / 11266	374 / 10433	Risk Ratio (M-H, Random, 95% CI)	0.82 [0.71, 0.95]	$I^2 = 0\%$	$\chi^2 = 21.14$ , df = 33 ( $P = 0.95$ ); $I^2 = 0\%$	Z = 2.66 ( $P = 0.008$ )	<b><math>\chi^2 = 0.10</math>, df = 2 (<math>P = 0.95</math>), <math>I^2 = 0\%</math></b>
1.9.2 Men	2	1189	2 / 598	2 / 591	Risk Ratio (M-H, Random, 95% CI)	0.98 [0.04, 22.38]	$I^2 = 53\%$	$\chi^2 = 2.12$ , df = 1 ( $P = 0.15$ ); $I^2 = 53\%$	Z = 0.01 ( $P = 0.99$ )	
1.9.3 Women	9	3070	16 / 1619	17 / 1451	Risk Ratio (M-H, Random, 95% CI)	0.74 [0.38, 1.47]	$I^2 = 0\%$	$\chi^2 = 5.08$ , df = 8 ( $P = 0.75$ ); $I^2 = 0\%$	Z = 0.85 ( $P = 0.39$ )	
1.9.4 Men and women	23	17440	293 / 9049	355 / 8391	Risk Ratio (M-H, Random, 95% CI)	0.83 [0.71, 0.96]	$I^2 = 0\%$	$\chi^2 = 13.87$ , df = 22 ( $P = 0.91$ ); $I^2 = 0\%$	Z = 2.54 ( $P = 0.01$ )	
1.10 Cancer Mortality	8	2619	13 / 1456	21 / 1163	Risk Ratio (M-H, Random, 95% CI)	0.58 [0.30, 1.11]	$I^2 = 0\%$	$\chi^2 = 1.86$ , df = 7 ( $P = 0.97$ ); $I^2 = 0\%$	Z = 1.64 ( $P = 0.10$ )	
1.11 Cancer Mortality - Allocation concealment	8	2619	13 / 1456	21 / 1163	Risk Ratio (M-H, Random, 95% CI)	0.58 [0.30, 1.11]	$I^2 = 0\%$	$\chi^2 = 1.86$ , df = 7 ( $P = 0.97$ ); $I^2 = 0\%$	Z = 1.64 ( $P = 0.10$ )	<b><math>\chi^2 = 0.16</math>, df = 1 (<math>P = 0.69</math>), <math>I^2 = 0\%</math></b>
1.11.3 High or unclear risk of bias	5	1602	10 / 949	17 / 653	Risk Ratio (M-H, Random, 95% CI)	0.54 [0.26, 1.12]	$I^2 = 0\%$	$\chi^2 = 1.51$ , df = 4 ( $P = 0.83$ ); $I^2 = 0\%$	Z = 1.65 ( $P = 0.10$ )	
1.11.4 Low risk of bias	3	1017	3 / 507	4 / 510	Risk Ratio (M-H, Random, 95% CI)	0.76 [0.17, 3.45]	$I^2 = 0\%$	$\chi^2 = 0.19$ , df = 2 ( $P = 0.91$ ); $I^2 = 0\%$	Z = 0.35 ( $P = 0.72$ )	
1.12 Cancer Mortality - FU	8	2619	13 / 1456	21 / 1163	Risk Ratio (M-H, Random, 95% CI)	0.58 [0.30, 1.11]	$I^2 = 0\%$	$\chi^2 = 1.86$ , df = 7 ( $P = 0.97$ ); $I^2 = 0\%$	Z = 1.64 ( $P = 0.10$ )	<b><math>\chi^2 = 0.00</math>, df = 1 (<math>P = 1.00</math>), <math>I^2 = 0\%</math></b>
1.12.2 Follow-up less than 80%	3	611	5 / 313	7 / 298	Risk Ratio (M-H, Random, 95% CI)	0.58 [0.19, 1.77]	$I^2 = 0\%$	$\chi^2 = 0.47$ , df = 2 ( $P = 0.79$ ); $I^2 = 0\%$	Z = 0.96 ( $P = 0.34$ )	
1.12.3 Follow-up 80% or more	5	2008	8 / 1143	14 / 865	Risk Ratio (M-H, Random, 95% CI)	0.58 [0.26, 1.30]	$I^2 = 0\%$	$\chi^2 = 1.40$ , df = 4 ( $P = 0.84$ ); $I^2 = 0\%$	Z = 1.33 ( $P = 0.18$ )	
1.13 Cancer Mortality - Age	8	2619	13 / 1456	21 / 1163	Risk Ratio (M-H, Random, 95% CI)	0.58 [0.30, 1.11]	$I^2 = 0\%$	$\chi^2 = 1.86$ , df = 7 ( $P = 0.97$ ); $I^2 = 0\%$	Z = 1.64 ( $P = 0.10$ )	<b><math>\chi^2 = 0.38</math>, df = 2 (<math>P = 0.83</math>), <math>I^2 = 0\%</math></b>
1.13.1 Unclear age	1	102	3 / 59	5 / 43	Risk Ratio (M-H, Random, 95% CI)	0.44 [0.11, 1.73]	Not applicable	Not applicable	Z = 1.18 ( $P = 0.24$ )	
1.13.2 Less than 60y	6	2442	10 / 1359	15 / 1083	Risk Ratio (M-H, Random, 95% CI)	0.65 [0.30, 1.41]	$I^2 = 0\%$	$\chi^2 = 1.48$ , df = 5 ( $P = 0.92$ ); $I^2 = 0\%$	Z = 1.09 ( $P = 0.27$ )	
1.13.3 60y or older	1	75	0 / 38	1 / 37	Risk Ratio (M-H, Random, 95% CI)	0.32 [0.01, 7.73]	Not applicable	Not applicable	Z = 0.70 ( $P = 0.49$ )	

1.14 Cancer Mortality - BMI	8	2619	13 / 1456	21 / 1163	Risk Ratio (M-H, Random, 95% CI)	0.58 [0.30, 1.11]	$I^2 = 0\%$	$\text{Chi}^2 = 1.86, df = 7 (P = 0.97); I^2 = 0\%$	Z = 1.64 (P = 0.10)	<b><math>\text{Chi}^2 = 0.85, df = 1 (P = 0.36), I^2 = 0\%</math></b>
1.14.2 BMI less than 35kg/m <sup>2</sup>	6	1716	13 / 869	19 / 847	Risk Ratio (M-H, Random, 95% CI)	0.63 [0.32, 1.26]	$I^2 = 0\%$	$\text{Chi}^2 = 0.82, df = 5 (P = 0.98); I^2 = 0\%$	Z = 1.30 (P = 0.19)	
1.14.3 BMI 35kg/m <sup>2</sup> or more	2	903	0 / 587	2 / 316	Risk Ratio (M-H, Random, 95% CI)	0.21 [0.02, 2.00]	$I^2 = 0\%$	$\text{Chi}^2 = 0.18, df = 1 (P = 0.67); I^2 = 0\%$	Z = 1.36 (P = 0.17)	
1.15 Cancer Mortality - DM	8	2619	13 / 1456	21 / 1163	Risk Ratio (M-H, Random, 95% CI)	0.58 [0.30, 1.11]	$I^2 = 0\%$	$\text{Chi}^2 = 1.86, df = 7 (P = 0.97); I^2 = 0\%$	Z = 1.64 (P = 0.10)	<b><math>\text{Chi}^2 = 0.87, df = 2 (P = 0.65), I^2 = 0\%</math></b>
1.15.2 Type 2 Diabetes	1	75	0 / 38	1 / 37	Risk Ratio (M-H, Random, 95% CI)	0.32 [0.01, 7.73]	Not applicable	Not applicable	Z = 0.70 (P = 0.49)	
1.15.3 Impaired glucose tolerance or fasting glycaemia	2	624	8 / 316	10 / 308	Risk Ratio (M-H, Random, 95% CI)	0.78 [0.31, 1.95]	$I^2 = 0\%$	$\text{Chi}^2 = 0.04, df = 1 (P = 0.85); I^2 = 0\%$	Z = 0.54 (P = 0.59)	
1.15.4 Other	5	1920	5 / 1102	10 / 818	Risk Ratio (M-H, Random, 95% CI)	0.43 [0.16, 1.16]	$I^2 = 0\%$	$\text{Chi}^2 = 0.96, df = 4 (P = 0.92); I^2 = 0\%$	Z = 1.67 (P = 0.10)	
1.16 Cancer Mortality - Ethnicity	8	2619	13 / 1456	21 / 1163	Risk Ratio (M-H, Random, 95% CI)	0.58 [0.30, 1.11]	$I^2 = 0\%$	$\text{Chi}^2 = 1.86, df = 7 (P = 0.97); I^2 = 0\%$	Z = 1.64 (P = 0.10)	<b><math>\text{Chi}^2 = 0.11, df = 1 (P = 0.74), I^2 = 0\%</math></b>
1.16.2 Mixed	1	291	0 / 144	1 / 147	Risk Ratio (M-H, Random, 95% CI)	0.34 [0.01, 8.28]	Not applicable	Not applicable	Z = 0.66 (P = 0.51)	
1.16.3 Caucasian	7	2328	13 / 1312	20 / 1016	Risk Ratio (M-H, Random, 95% CI)	0.59 [0.30, 1.16]	$I^2 = 0\%$	$\text{Chi}^2 = 1.75, df = 6 (P = 0.94); I^2 = 0\%$	Z = 1.54 (P = 0.12)	
1.16.4 Black	0	0	0 / 0	0 / 0	Risk Ratio (M-H, Random, 95% CI)	Not estimable	Not applicable	Not applicable	Not applicable	
1.16.5 Asian	0	0	0 / 0	0 / 0	Risk Ratio (M-H, Random, 95% CI)	Not estimable	Not applicable	Not applicable	Not applicable	
1.17 Cancer Mortality - Physical activity	8	2619	13 / 1456	21 / 1163	Risk Ratio (M-H, Random, 95% CI)	0.58 [0.30, 1.11]	$I^2 = 0\%$	$\text{Chi}^2 = 1.86, df = 7 (P = 0.97); I^2 = 0\%$	Z = 1.64 (P = 0.10)	<b><math>\text{Chi}^2 = 0.62, df = 2 (P = 0.73), I^2 = 0\%</math></b>
1.17.2 No physical activity described	2	177	3 / 97	6 / 80	Risk Ratio (M-H, Random, 95% CI)	0.42 [0.12, 1.47]	$I^2 = 0\%$	$\text{Chi}^2 = 0.03, df = 1 (P = 0.87); I^2 = 0\%$	Z = 1.36 (P = 0.17)	
1.17.3 Physical activity advice	3	1222	2 / 747	4 / 475	Risk Ratio (M-H, Random, 95% CI)	0.45 [0.09, 2.18]	$I^2 = 0\%$	$\text{Chi}^2 = 0.93, df = 2 (P = 0.63); I^2 = 0\%$	Z = 0.99 (P = 0.32)	
1.17.4 Physical activity facility	3	1220	8 / 612	11 / 608	Risk Ratio (M-H, Random, 95% CI)	0.73 [0.30, 1.77]	$I^2 = 0\%$	$\text{Chi}^2 = 0.28, df = 2 (P = 0.87); I^2 = 0\%$	Z = 0.70 (P = 0.49)	

1.18 Cancer Mortality - Sex	8	2619	13 / 1456	21 / 1163	Risk Ratio (M-H, Random, 95% CI)	0.58 [0.30, 1.11]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 1.86, df = 7 (P = 0.97); I <sup>2</sup> = 0%	Z = 1.64 (P = 0.10)	<b>Chi<sup>2</sup> = 0.07, df = 1 (P = 0.79), I<sup>2</sup> = 0%</b>
1.18.2 Men	0	0	0 / 0	0 / 0	Risk Ratio (M-H, Random, 95% CI)	Not estimable	Not applicable	Not applicable	Not applicable	
1.18.3 Women	3	1017	5 / 515	8 / 502	Risk Ratio (M-H, Random, 95% CI)	0.51 [0.17, 1.54]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 0.28, df = 2 (P = 0.87); I <sup>2</sup> = 0%	Z = 1.19 (P = 0.23)	
1.18.4 Men and women	5	1602	8 / 941	13 / 661	Risk Ratio (M-H, Random, 95% CI)	0.62 [0.27, 1.40]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 1.51, df = 4 (P = 0.82); I <sup>2</sup> = 0%	Z = 1.15 (P = 0.25)	
1.19 Cardiovascular Mortality	8	9090	65 / 4547	69 / 4543	Risk Ratio (M-H, Random, 95% CI)	0.93 [0.67, 1.31]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 3.73, df = 7 (P = 0.81); I <sup>2</sup> = 0%	Z = 0.40 (P = 0.69)	
1.20 Cardiovascular Mortality - Allocation concealment	8	9090	65 / 4547	69 / 4543	Risk Ratio (M-H, Random, 95% CI)	0.93 [0.67, 1.31]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 3.73, df = 7 (P = 0.81); I <sup>2</sup> = 0%	Z = 0.40 (P = 0.69)	<b>Chi<sup>2</sup> = 0.07, df = 1 (P = 0.79), I<sup>2</sup> = 0%</b>
1.20.2 High or unclear risk of bias	7	3945	13 / 1977	12 / 1968	Risk Ratio (M-H, Random, 95% CI)	1.03 [0.47, 2.25]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 3.66, df = 6 (P = 0.72); I <sup>2</sup> = 0%	Z = 0.07 (P = 0.94)	
1.20.4 Low risk of bias	1	5145	52 / 2570	57 / 2575	Risk Ratio (M-H, Random, 95% CI)	0.91 [0.63, 1.33]	Not applicable	Not applicable	Z = 0.47 (P = 0.64)	
1.21 Cardiovascular Mortality - FU	8	9090	65 / 4547	69 / 4543	Risk Ratio (M-H, Random, 95% CI)	0.93 [0.67, 1.31]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 3.73, df = 7 (P = 0.81); I <sup>2</sup> = 0%	Z = 0.40 (P = 0.69)	<b>Chi<sup>2</sup> = 0.28, df = 1 (P = 0.60), I<sup>2</sup> = 0%</b>
1.21.2 Follow-up less than 80%	2	743	2 / 368	1 / 375	Risk Ratio (M-H, Random, 95% CI)	1.63 [0.20, 13.09]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 0.25, df = 1 (P = 0.62); I <sup>2</sup> = 0%	Z = 0.46 (P = 0.65)	
1.21.3 Follow-up 80% or more	6	8347	63 / 4179	68 / 4168	Risk Ratio (M-H, Random, 95% CI)	0.92 [0.65, 1.29]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 3.20, df = 5 (P = 0.67); I <sup>2</sup> = 0%	Z = 0.48 (P = 0.63)	
1.22 Cardiovascular Mortality - Age	8	9090	65 / 4547	69 / 4543	Risk Ratio (M-H, Random, 95% CI)	0.93 [0.67, 1.31]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 3.73, df = 7 (P = 0.81); I <sup>2</sup> = 0%	Z = 0.40 (P = 0.69)	<b>Chi<sup>2</sup> = 0.23, df = 1 (P = 0.63), I<sup>2</sup> = 0%</b>
1.22.3 Less than 60y	7	9062	64 / 4530	69 / 4532	Risk Ratio (M-H, Random, 95% CI)	0.93 [0.66, 1.30]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 3.50, df = 6 (P = 0.74); I <sup>2</sup> = 0%	Z = 0.45 (P = 0.65)	
1.22.4 60y or older	1	28	1 / 17	0 / 11	Risk Ratio (M-H, Random, 95% CI)	2.00 [0.09, 45.12]	Not applicable	Not applicable	Z = 0.44 (P = 0.66)	
1.23 Cardiovascular Mortality - BMI	8	9090	65 / 4547	69 / 4543	Risk Ratio (M-H, Random, 95% CI)	0.93 [0.67, 1.31]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 3.73, df = 7 (P = 0.81); I <sup>2</sup> = 0%	Z = 0.40 (P = 0.69)	<b>Chi<sup>2</sup> = 0.04, df = 1 (P = 0.85), I<sup>2</sup> = 0%</b>

1.23.2 BMI less than 35kg/m <sup>2</sup>	5	3454	11 / 1729	10 / 1725	Risk Ratio (M-H, Random, 95% CI)	1.04 [0.45, 2.41]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 1.34, df = 4 (P = 0.85); I <sup>2</sup> = 0%	Z = 0.09 (P = 0.93)	
1.23.3 BMI 35kg/m <sup>2</sup> or more	3	5636	54 / 2818	59 / 2818	Risk Ratio (M-H, Random, 95% CI)	0.92 [0.39, 2.18]	I <sup>2</sup> = 14%	Chi <sup>2</sup> = 2.31, df = 2 (P = 0.31); I <sup>2</sup> = 14%	Z = 0.18 (P = 0.85)	
1.24 Cardiovascular Mortality - DM	8	9090	65 / 4547	69 / 4543	Risk Ratio (M-H, Random, 95% CI)	0.93 [0.67, 1.31]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 3.73, df = 7 (P = 0.81); I <sup>2</sup> = 0%	Z = 0.40 (P = 0.69)	Chi <sup>2</sup> = 0.11, df = 2 (P = 0.95), I <sup>2</sup> = 0%
1.24.2 Type 2 Diabetes	1	5145	52 / 2570	57 / 2575	Risk Ratio (M-H, Random, 95% CI)	0.91 [0.63, 1.33]	Not applicable	Not applicable	Z = 0.47 (P = 0.64)	
1.24.3 Impaired glucose tolerance or fasting glycaemia	3	2761	9 / 1383	9 / 1378	Risk Ratio (M-H, Random, 95% CI)	0.98 [0.39, 2.47]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 1.16, df = 2 (P = 0.56); I <sup>2</sup> = 0%	Z = 0.04 (P = 0.97)	
1.24.4 Other	4	1184	4 / 594	3 / 590	Risk Ratio (M-H, Random, 95% CI)	1.16 [0.26, 5.14]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 2.47, df = 3 (P = 0.48); I <sup>2</sup> = 0%	Z = 0.20 (P = 0.84)	
1.25 Cardiovascular Mortality - Ethnicity	8	9090	65 / 4547	69 / 4543	Risk Ratio (M-H, Random, 95% CI)	0.93 [0.67, 1.31]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 3.73, df = 7 (P = 0.81); I <sup>2</sup> = 0%	Z = 0.40 (P = 0.69)	Chi <sup>2</sup> = 0.13, df = 1 (P = 0.72), I <sup>2</sup> = 0%
1.25.2 Mixed	4	8262	57 / 4122	62 / 4140	Risk Ratio (M-H, Random, 95% CI)	0.91 [0.64, 1.31]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 1.73, df = 3 (P = 0.63); I <sup>2</sup> = 0%	Z = 0.50 (P = 0.62)	
1.25.3 Caucasian	4	828	8 / 425	7 / 403	Risk Ratio (M-H, Random, 95% CI)	1.11 [0.41, 2.96]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 1.89, df = 3 (P = 0.60); I <sup>2</sup> = 0%	Z = 0.20 (P = 0.84)	
1.25.4 Black	0	0	0 / 0	0 / 0	Risk Ratio (M-H, Random, 95% CI)	Not estimable	Not applicable	Not applicable	Not applicable	
1.25.5 Asian	0	0	0 / 0	0 / 0	Risk Ratio (M-H, Random, 95% CI)	Not estimable	Not applicable	Not applicable	Not applicable	
1.26 Cardiovascular Mortality - Physical activity	8	9090	65 / 4547	69 / 4543	Risk Ratio (M-H, Random, 95% CI)	0.93 [0.67, 1.31]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 3.73, df = 7 (P = 0.81); I <sup>2</sup> = 0%	Z = 0.40 (P = 0.69)	Chi <sup>2</sup> = 0.28, df = 1 (P = 0.60), I <sup>2</sup> = 0%
1.26.2 No physical activity described	0	0	0 / 0	0 / 0	Risk Ratio (M-H, Random, 95% CI)	Not estimable	Not applicable	Not applicable	Not applicable	
1.26.3 Physical activity advice	2	743	2 / 368	1 / 375	Risk Ratio (M-H, Random, 95% CI)	1.63 [0.20, 13.09]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 0.25, df = 1 (P = 0.62); I <sup>2</sup> = 0%	Z = 0.46 (P = 0.65)	
1.26.4 Physical activity facility	6	8347	63 / 4179	68 / 4168	Risk Ratio (M-H, Random, 95% CI)	0.92 [0.65, 1.29]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 3.20, df = 5 (P = 0.67); I <sup>2</sup> = 0%	Z = 0.48 (P = 0.63)	
1.27 Cardiovascular Mortality - Sex	8	9090	65 / 4547	69 / 4543	Risk Ratio (M-H, Random, 95% CI)	0.93 [0.67, 1.31]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 3.73, df = 7 (P = 0.81); I <sup>2</sup> = 0%	Z = 0.40 (P = 0.69)	Chi <sup>2</sup> = 0.23, df = 1 (P = 0.63), I <sup>2</sup> = 0%

1.27.2 Men	0	0	0 / 0	0 / 0	Risk Ratio (M-H, Random, 95% CI)	Not estimable	Not applicable	Not applicable	Not applicable	
1.27.3 Women	1	28	1 / 17	0 / 11	Risk Ratio (M-H, Random, 95% CI)	2.00 [0.09, 45.12]	Not applicable	Not applicable	Z = 0.44 (P = 0.66)	
1.27.4 Men and women	7	9062	64 / 4530	69 / 4532	Risk Ratio (M-H, Random, 95% CI)	0.93 [0.66, 1.30]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 3.50, df = 6 (P = 0.74); I <sup>2</sup> = 0%	Z = 0.45 (P = 0.65)	
1.28 Cancer Event	19	6330	53 / 3425	50 / 2905	Risk Ratio (M-H, Random, 95% CI)	0.92 [0.63, 1.36]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 6.79, df = 18 (P = 0.99); I <sup>2</sup> = 0%	Z = 0.40 (P = 0.69)	
1.29 Cancer Event - Allocation concealment	19	6330	53 / 3425	50 / 2905	Risk Ratio (M-H, Random, 95% CI)	0.92 [0.63, 1.36]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 6.79, df = 18 (P = 0.99); I <sup>2</sup> = 0%	Z = 0.40 (P = 0.69)	Chi <sup>2</sup> = 0.39, df = 1 (P = 0.53), I <sup>2</sup> = 0%
1.29.2 High or unclear risk of bias	14	4759	46 / 2603	39 / 2156	Risk Ratio (M-H, Random, 95% CI)	0.98 [0.64, 1.49]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 6.06, df = 13 (P = 0.94); I <sup>2</sup> = 0%	Z = 0.11 (P = 0.91)	
1.29.3 Low risk of bias	5	1571	7 / 822	11 / 749	Risk Ratio (M-H, Random, 95% CI)	0.70 [0.27, 1.82]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 0.34, df = 4 (P = 0.99); I <sup>2</sup> = 0%	Z = 0.74 (P = 0.46)	
1.30 Cancer Event - FU	19	6330	53 / 3425	50 / 2905	Risk Ratio (M-H, Random, 95% CI)	0.92 [0.63, 1.36]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 6.79, df = 18 (P = 0.99); I <sup>2</sup> = 0%	Z = 0.40 (P = 0.69)	Chi <sup>2</sup> = 1.56, df = 1 (P = 0.21), I <sup>2</sup> = 35.9%
1.30.2 Follow-up less than 80%	5	1184	8 / 599	3 / 585	Risk Ratio (M-H, Random, 95% CI)	1.93 [0.57, 6.54]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 0.91, df = 4 (P = 0.92); I <sup>2</sup> = 0%	Z = 1.06 (P = 0.29)	
1.30.3 Follow-up 80% or more	14	5146	45 / 2826	47 / 2320	Risk Ratio (M-H, Random, 95% CI)	0.85 [0.57, 1.28]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 4.30, df = 13 (P = 0.99); I <sup>2</sup> = 0%	Z = 0.78 (P = 0.44)	
1.31 Cancer Event - Age	19	6330	53 / 3425	50 / 2905	Risk Ratio (M-H, Random, 95% CI)	0.92 [0.63, 1.36]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 6.79, df = 18 (P = 0.99); I <sup>2</sup> = 0%	Z = 0.40 (P = 0.69)	Chi <sup>2</sup> = 0.62, df = 2 (P = 0.73), I <sup>2</sup> = 0%
1.31.2 Unclear	1	102	3 / 59	1 / 43	Risk Ratio (M-H, Random, 95% CI)	2.19 [0.24, 20.31]	Not applicable	Not applicable	Z = 0.69 (P = 0.49)	
1.31.3 Less than 60y	14	5353	44 / 2878	42 / 2475	Risk Ratio (M-H, Random, 95% CI)	0.89 [0.58, 1.35]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 5.04, df = 13 (P = 0.97); I <sup>2</sup> = 0%	Z = 0.55 (P = 0.58)	
1.31.4 60y or older	4	875	6 / 488	7 / 387	Risk Ratio (M-H, Random, 95% CI)	0.98 [0.32, 3.04]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 1.13, df = 3 (P = 0.77); I <sup>2</sup> = 0%	Z = 0.03 (P = 0.97)	
1.32 Cancer Event - BMI	19	6330	53 / 3425	50 / 2905	Risk Ratio (M-H, Random, 95% CI)	0.92 [0.63, 1.36]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 6.79, df = 18 (P = 0.99); I <sup>2</sup> = 0%	Z = 0.40 (P = 0.69)	Chi <sup>2</sup> = 0.00, df = 1 (P = 0.95), I <sup>2</sup> = 0%

1.32.2 BMI less than 35kg/m <sup>2</sup>	11	3589	39 / 1854	40 / 1735	Risk Ratio (M-H, Random, 95% CI)	0.93 [0.60, 1.44]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 3.74, df = 10 (P = 0.96); I <sup>2</sup> = 0%	Z = 0.33 (P = 0.74)	
1.32.3 BMI 35kg/m <sup>2</sup> or more	8	2741	14 / 1571	10 / 1170	Risk Ratio (M-H, Random, 95% CI)	0.90 [0.39, 2.10]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 3.05, df = 7 (P = 0.88); I <sup>2</sup> = 0%	Z = 0.24 (P = 0.81)	
1.33 Cancer Event - DM	19	6330	53 / 3425	50 / 2905	Risk Ratio (M-H, Random, 95% CI)	0.92 [0.63, 1.36]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 6.79, df = 18 (P = 0.99); I <sup>2</sup> = 0%	Z = 0.40 (P = 0.69)	Chi <sup>2</sup> = 0.36, df = 2 (P = 0.84), I <sup>2</sup> = 0%
1.33.2 Type 2 Diabetes	2	623	2 / 309	2 / 314	Risk Ratio (M-H, Random, 95% CI)	0.97 [0.14, 6.56]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 0.77, df = 1 (P = 0.38); I <sup>2</sup> = 0%	Z = 0.03 (P = 0.98)	
1.33.3 Impaired glucose tolerance or fasting glycaemia	2	624	24 / 316	28 / 308	Risk Ratio (M-H, Random, 95% CI)	0.83 [0.49, 1.40]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 0.02, df = 1 (P = 0.89); I <sup>2</sup> = 0%	Z = 0.69 (P = 0.49)	
1.33.4 Other	15	5083	27 / 2800	20 / 2283	Risk Ratio (M-H, Random, 95% CI)	1.06 [0.58, 1.95]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 5.63, df = 14 (P = 0.97); I <sup>2</sup> = 0%	Z = 0.19 (P = 0.85)	
1.34 Cancer Event - Ethnicity	19	6330	53 / 3425	50 / 2905	Risk Ratio (M-H, Random, 95% CI)	0.92 [0.63, 1.36]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 6.79, df = 18 (P = 0.99); I <sup>2</sup> = 0%	Z = 0.40 (P = 0.69)	Chi <sup>2</sup> = 0.88, df = 2 (P = 0.64), I <sup>2</sup> = 0%
1.34.2 Mixed	5	1773	7 / 918	11 / 855	Risk Ratio (M-H, Random, 95% CI)	0.70 [0.27, 1.81]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 1.10, df = 4 (P = 0.89); I <sup>2</sup> = 0%	Z = 0.74 (P = 0.46)	
1.34.3 Caucasian	13	4344	45 / 2400	39 / 1944	Risk Ratio (M-H, Random, 95% CI)	0.96 [0.62, 1.47]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 4.81, df = 12 (P = 0.96); I <sup>2</sup> = 0%	Z = 0.20 (P = 0.84)	
1.34.4 Black	1	213	1 / 107	0 / 106	Risk Ratio (M-H, Random, 95% CI)	2.97 [0.12, 72.15]	Not applicable	Not applicable	Z = 0.67 (P = 0.50)	
1.34.5 Asian	0	0	0 / 0	0 / 0	Risk Ratio (M-H, Random, 95% CI)	Not estimable	Not applicable	Not applicable	Not applicable	
1.35 Cancer Event - Physical activity	19	6330	53 / 3425	50 / 2905	Risk Ratio (M-H, Random, 95% CI)	0.92 [0.63, 1.36]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 6.79, df = 18 (P = 0.99); I <sup>2</sup> = 0%	Z = 0.40 (P = 0.69)	Chi <sup>2</sup> = 0.72, df = 2 (P = 0.70), I <sup>2</sup> = 0%
1.35.2 No physical activity described	1	102	3 / 59	1 / 43	Risk Ratio (M-H, Random, 95% CI)	2.19 [0.24, 20.31]	Not applicable	Not applicable	Z = 0.69 (P = 0.49)	
1.35.3 Physical activity advice	9	3810	16 / 2100	10 / 1710	Risk Ratio (M-H, Random, 95% CI)	1.03 [0.45, 2.36]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 4.08, df = 8 (P = 0.85); I <sup>2</sup> = 0%	Z = 0.07 (P = 0.95)	
1.35.4 Physical activity facility	9	2418	34 / 1266	39 / 1152	Risk Ratio (M-H, Random, 95% CI)	0.87 [0.55, 1.35]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 1.99, df = 8 (P = 0.98); I <sup>2</sup> = 0%	Z = 0.64 (P = 0.52)	

1.36 Cancer Event - Sex	19	6330	53 / 3425	50 / 2905	Risk Ratio (M-H, Random, 95% CI)	0.92 [0.63, 1.36]	$I^2 = 0\%$	$\text{Chi}^2 = 6.79, df = 18 (P = 0.99); I^2 = 0\%$	$Z = 0.40 (P = 0.69)$	<b><math>\text{Chi}^2 = 0.04, df = 1 (P = 0.84), I^2 = 0\%</math></b>
1.36.2 Men	0	0	0 / 0	0 / 0	Risk Ratio (M-H, Random, 95% CI)	Not estimable	Not applicable	Not applicable	Not applicable	
1.36.3 Women	5	1927	7 / 970	6 / 957	Risk Ratio (M-H, Random, 95% CI)	1.03 [0.33, 3.21]	$I^2 = 0\%$	$\text{Chi}^2 = 1.55, df = 4 (P = 0.82); I^2 = 0\%$	$Z = 0.06 (P = 0.96)$	
1.36.4 Men and women	14	4403	46 / 2455	44 / 1948	Risk Ratio (M-H, Random, 95% CI)	0.91 [0.60, 1.37]	$I^2 = 0\%$	$\text{Chi}^2 = 5.19, df = 13 (P = 0.97); I^2 = 0\%$	$Z = 0.45 (P = 0.65)$	
1.37 Any Cardiovascular Event	24	15176	497 / 7828	546 / 7348	Risk Ratio (M-H, Random, 95% CI)	0.93 [0.83, 1.04]	$I^2 = 0\%$	$\text{Chi}^2 = 16.58, df = 23 (P = 0.83); I^2 = 0\%$	$Z = 1.33 (P = 0.18)$	
1.38 Any Cardiovascular Event - Allocation concealment	24	15176	497 / 7828	546 / 7348	Risk Ratio (M-H, Random, 95% CI)	0.93 [0.83, 1.04]	$I^2 = 0\%$	$\text{Chi}^2 = 16.58, df = 23 (P = 0.83); I^2 = 0\%$	$Z = 1.33 (P = 0.18)$	<b><math>\text{Chi}^2 = 1.77, df = 1 (P = 0.18), I^2 = 43.6\%</math></b>
1.38.2 High or unclear risk of bias	17	7109	67 / 3624	91 / 3485	Risk Ratio (M-H, Random, 95% CI)	0.76 [0.55, 1.04]	$I^2 = 0\%$	$\text{Chi}^2 = 10.12, df = 16 (P = 0.86); I^2 = 0\%$	$Z = 1.72 (P = 0.08)$	
1.38.3 Low risk of bias	7	8067	430 / 4204	455 / 3863	Risk Ratio (M-H, Random, 95% CI)	0.95 [0.84, 1.08]	$I^2 = 0\%$	$\text{Chi}^2 = 4.66, df = 6 (P = 0.59); I^2 = 0\%$	$Z = 0.76 (P = 0.45)$	
1.39 Any Cardiovascular Event - FU	24	15176	497 / 7828	546 / 7348	Risk Ratio (M-H, Random, 95% CI)	0.93 [0.83, 1.04]	$I^2 = 0\%$	$\text{Chi}^2 = 16.58, df = 23 (P = 0.83); I^2 = 0\%$	$Z = 1.33 (P = 0.18)$	<b><math>\text{Chi}^2 = 0.41, df = 1 (P = 0.52), I^2 = 0\%</math></b>
1.39.2 Follow-up less than 80%	5	1375	15 / 726	18 / 649	Risk Ratio (M-H, Random, 95% CI)	0.75 [0.39, 1.43]	$I^2 = 0\%$	$\text{Chi}^2 = 2.10, df = 4 (P = 0.72); I^2 = 0\%$	$Z = 0.87 (P = 0.39)$	
1.39.3 Follow-up 80% or more	19	13801	482 / 7102	528 / 6699	Risk Ratio (M-H, Random, 95% CI)	0.93 [0.83, 1.05]	$I^2 = 0\%$	$\text{Chi}^2 = 14.13, df = 18 (P = 0.72); I^2 = 0\%$	$Z = 1.20 (P = 0.23)$	
1.40 Any Cardiovascular Event - Age	24	15176	497 / 7828	546 / 7348	Risk Ratio (M-H, Random, 95% CI)	0.93 [0.83, 1.04]	$I^2 = 0\%$	$\text{Chi}^2 = 16.58, df = 23 (P = 0.83); I^2 = 0\%$	$Z = 1.33 (P = 0.18)$	<b><math>\text{Chi}^2 = 1.58, df = 1 (P = 0.21), I^2 = 36.5\%</math></b>
1.40.2 Less than 60y	18	13985	473 / 7225	498 / 6760	Risk Ratio (M-H, Random, 95% CI)	0.94 [0.84, 1.06]	$I^2 = 0\%$	$\text{Chi}^2 = 13.93, df = 17 (P = 0.67); I^2 = 0\%$	$Z = 0.98 (P = 0.33)$	
1.40.3 60y or older	6	1191	24 / 603	48 / 588	Risk Ratio (M-H, Random, 95% CI)	0.70 [0.44, 1.10]	$I^2 = 0\%$	$\text{Chi}^2 = 1.07, df = 5 (P = 0.96); I^2 = 0\%$	$Z = 1.54 (P = 0.12)$	

1.41 Any Cardiovascular Event - BMI	24	15176	497 / 7828	546 / 7348	Risk Ratio (M-H, Random, 95% CI)	0.93 [0.83, 1.04]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 16.58, df = 23 (P = 0.83); I <sup>2</sup> = 0%	Z = 1.33 (P = 0.18)	<b>Chi<sup>2</sup> = 1.95, df = 1 (P = 0.16), I<sup>2</sup> = 48.8%</b>
1.41.2 BMI less than 35 kg/m <sup>2</sup>	15	6858	69 / 3606	103 / 3252	Risk Ratio (M-H, Random, 95% CI)	0.76 [0.56, 1.03]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 11.01, df = 14 (P = 0.69); I <sup>2</sup> = 0%	Z = 1.79 (P = 0.07)	
1.41.3 BMI 35kg/m <sup>2</sup> or more	9	8318	428 / 4222	443 / 4096	Risk Ratio (M-H, Random, 95% CI)	0.96 [0.85, 1.08]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 3.59, df = 8 (P = 0.89); I <sup>2</sup> = 0%	Z = 0.71 (P = 0.48)	
1.42 Any Cardiovascular Event - DM	24	15176	497 / 7828	546 / 7348	Risk Ratio (M-H, Random, 95% CI)	0.93 [0.83, 1.04]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 16.58, df = 23 (P = 0.83); I <sup>2</sup> = 0%	Z = 1.33 (P = 0.18)	<b>Chi<sup>2</sup> = 6.42, df = 2 (P = 0.04), I<sup>2</sup> = 68.9%</b>
1.42.2 Type 2 Diabetes	3	5798	404 / 2891	422 / 2907	Risk Ratio (M-H, Random, 95% CI)	0.96 [0.85, 1.09]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 1.42, df = 2 (P = 0.49); I <sup>2</sup> = 0%	Z = 0.59 (P = 0.55)	
1.42.3 Impaired glucose tolerance or fasting glycaemia	5	3290	32 / 1686	25 / 1604	Risk Ratio (M-H, Random, 95% CI)	1.22 [0.73, 2.05]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 1.60, df = 4 (P = 0.81); I <sup>2</sup> = 0%	Z = 0.77 (P = 0.44)	
1.42.4 Other	16	6088	61 / 3251	99 / 2837	Risk Ratio (M-H, Random, 95% CI)	0.65 [0.47, 0.89]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 7.13, df = 15 (P = 0.95); I <sup>2</sup> = 0%	Z = 2.69 (P = 0.007)	
1.43 Any Cardiovascular Event - Ethnicity	24	15176	497 / 7828	546 / 7348	Risk Ratio (M-H, Random, 95% CI)	0.93 [0.83, 1.04]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 16.58, df = 23 (P = 0.83); I <sup>2</sup> = 0%	Z = 1.33 (P = 0.18)	<b>Chi<sup>2</sup> = 5.03, df = 1 (P = 0.02), I<sup>2</sup> = 80.1%</b>
1.43.2 Mixed	11	11364	464 / 5841	487 / 5523	Risk Ratio (M-H, Random, 95% CI)	0.96 [0.85, 1.08]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 5.38, df = 10 (P = 0.86); I <sup>2</sup> = 0%	Z = 0.67 (P = 0.51)	
1.43.3 Caucasian	13	3812	33 / 1987	59 / 1825	Risk Ratio (M-H, Random, 95% CI)	0.59 [0.39, 0.89]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 6.15, df = 12 (P = 0.91); I <sup>2</sup> = 0%	Z = 2.52 (P = 0.01)	
1.43.4 Black	0	0	0 / 0	0 / 0	Risk Ratio (M-H, Random, 95% CI)	Not estimable	Not applicable	Not applicable	Not applicable	
1.43.5 Asian	0	0	0 / 0	0 / 0	Risk Ratio (M-H, Random, 95% CI)	Not estimable	Not applicable	Not applicable	Not applicable	
1.44 Any Cardiovascular Event - Physical activity	24	15176	497 / 7828	546 / 7348	Risk Ratio (M-H, Random, 95% CI)	0.93 [0.83, 1.04]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 16.58, df = 23 (P = 0.83); I <sup>2</sup> = 0%	Z = 1.33 (P = 0.18)	<b>Chi<sup>2</sup> = 2.74, df = 1 (P = 0.10), I<sup>2</sup> = 63.5%</b>
1.44.2 No physical activity described	0	0	0 / 0	0 / 0	Risk Ratio (M-H, Random, 95% CI)	Not estimable	Not applicable	Not applicable	Not applicable	
1.44.3 Physical activity advice	12	4539	45 / 2332	58 / 2207	Risk Ratio (M-H, Random, 95% CI)	0.67 [0.45, 1.00]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 7.08, df = 11 (P = 0.79); I <sup>2</sup> = 0%	Z = 1.97 (P = 0.05)	

1.44.4 Physical activity facility	12	10637	452 / 5496	488 / 5141	Risk Ratio (M-H, Random, 95% CI)	0.95 [0.85, 1.07]	$I^2 = 0\%$	$\chi^2 = 6.74, df = 11 (P = 0.82); I^2 = 0\%$	Z = 0.80 (P = 0.42)	
1.45 Any Cardiovascular Event - Sex	24	15176	497 / 7828	546 / 7348	Risk Ratio (M-H, Random, 95% CI)	0.93 [0.83, 1.04]	$I^2 = 0\%$	$\chi^2 = 16.58, df = 23 (P = 0.83); I^2 = 0\%$	Z = 1.33 (P = 0.18)	<b><math>\chi^2 = 1.50, df = 2 (P = 0.47), I^2 = 0\%</math></b>
1.45.2 Men	1	748	0 / 374	1 / 374	Risk Ratio (M-H, Random, 95% CI)	0.33 [0.01, 8.16]	Not applicable	Not applicable	Z = 0.67 (P = 0.50)	
1.45.3 Women	2	725	4 / 365	8 / 360	Risk Ratio (M-H, Random, 95% CI)	0.48 [0.14, 1.63]	$I^2 = 0\%$	$\chi^2 = 0.94, df = 1 (P = 0.33); I^2 = 0\%$	Z = 1.17 (P = 0.24)	
1.45.4 Men and women	21	13703	493 / 7089	537 / 6614	Risk Ratio (M-H, Random, 95% CI)	0.93 [0.83, 1.05]	$I^2 = 0\%$	$\chi^2 = 14.13, df = 20 (P = 0.82); I^2 = 0\%$	Z = 1.20 (P = 0.23)	
1.46 Weight Change in kg	49	23911	0 / 12680	0 / 11231	Mean Difference (IV, Random, 95% CI)	-2.85 [-3.34, -2.36]	$I^2 = 86\%$	$\chi^2 = 331.54, df = 48 (P < 0.00001); I^2 = 86\%$	Z = 11.44 (P < 0.00001)	
1.47 Weight Change in kg - Allocation concealment	49	23911	0 / 12680	0 / 11231	Mean Difference (IV, Random, 95% CI)	-2.85 [-3.34, -2.36]	$I^2 = 86\%$	$\chi^2 = 331.54, df = 48 (P < 0.00001); I^2 = 86\%$	Z = 11.44 (P < 0.00001)	<b><math>\chi^2 = 3.74, df = 1 (P = 0.05), I^2 = 73.2\%</math></b>
1.47.2 High or unclear risk of bias	32	10506	0 / 5546	0 / 4960	Mean Difference (IV, Random, 95% CI)	-3.24 [-4.00, -2.49]	$I^2 = 87\%$	$\chi^2 = 244.32, df = 31 (P < 0.00001); I^2 = 87\%$	Z = 8.42 (P < 0.00001)	
1.47.3 Low risk of bias	17	13405	0 / 7134	0 / 6271	Mean Difference (IV, Random, 95% CI)	-2.33 [-2.87, -1.79]	$I^2 = 76\%$	$\chi^2 = 66.84, df = 16 (P < 0.00001); I^2 = 76\%$	Z = 8.43 (P < 0.00001)	
1.48 Weight Change in kg - FU	49	23911	0 / 12680	0 / 11231	Mean Difference (IV, Random, 95% CI)	-2.85 [-3.34, -2.36]	$I^2 = 86\%$	$\chi^2 = 331.54, df = 48 (P < 0.00001); I^2 = 86\%$	Z = 11.44 (P < 0.00001)	<b><math>\chi^2 = 4.94, df = 1 (P = 0.03), I^2 = 79.8\%</math></b>
1.48.2 Follow-up less than 80%	16	7389	0 / 3794	0 / 3595	Mean Difference (IV, Random, 95% CI)	-2.09 [-2.80, -1.37]	$I^2 = 79\%$	$\chi^2 = 69.93, df = 15 (P < 0.00001); I^2 = 79\%$	Z = 5.71 (P < 0.00001)	
1.48.3 Follow-up 80% or more	33	16522	0 / 8886	0 / 7636	Mean Difference (IV, Random, 95% CI)	-3.13 [-3.71, -2.55]	$I^2 = 84\%$	$\chi^2 = 196.11, df = 32 (P < 0.00001); I^2 = 84\%$	Z = 10.57 (P < 0.00001)	

1.49 Weight Change in kg - Age	49	23911	0 / 12680	0 / 11231	Mean Difference (IV, Random, 95% CI)	-2.85 [-3.34, -2.36]	$I^2 = 86\%$	$\chi^2 = 331.54, df = 48 (P < 0.00001); I^2 = 86\%$	Z = 11.44 (P < 0.00001)	<b><math>\chi^2 = 9.82, df = 2 (P = 0.007), I^2 = 79.6\%</math></b>
1.49.2 Unclear age	2	75	0 / 45	0 / 30	Mean Difference (IV, Random, 95% CI)	-5.66 [-8.77, -2.56]	$I^2 = 0\%$	$\chi^2 = 0.06, df = 1 (P = 0.80); I^2 = 0\%$	Z = 3.57 (P = 0.0004)	
1.49.3 Less than 60y	35	21231	0 / 11298	0 / 9933	Mean Difference (IV, Random, 95% CI)	-2.39 [-2.87, -1.92]	$I^2 = 83\%$	$\chi^2 = 201.17, df = 34 (P < 0.00001); I^2 = 83\%$	Z = 9.85 (P < 0.00001)	
1.49.4 60y or older	12	2605	0 / 1337	0 / 1268	Mean Difference (IV, Random, 95% CI)	-4.46 [-6.03, -2.89]	$I^2 = 88\%$	$\chi^2 = 92.13, df = 11 (P < 0.00001); I^2 = 88\%$	Z = 5.57 (P < 0.00001)	
1.50 Weight Change in Kg - BMI	49	23911	0 / 12680	0 / 11231	Mean Difference (IV, Random, 95% CI)	-2.85 [-3.34, -2.36]	$I^2 = 86\%$	$\chi^2 = 331.54, df = 48 (P < 0.00001); I^2 = 86\%$	Z = 11.44 (P < 0.00001)	<b><math>\chi^2 = 0.66, df = 1 (P = 0.42), I^2 = 0\%</math></b>
1.50.2 BMI less than 35kg/m <sup>2</sup>	37	15467	0 / 8151	0 / 7316	Mean Difference (IV, Random, 95% CI)	-2.71 [-3.27, -2.16]	$I^2 = 84\%$	$\chi^2 = 231.90, df = 36 (P < 0.00001); I^2 = 84\%$	Z = 9.62 (P < 0.00001)	
1.50.3 BMI 35kg/m <sup>2</sup> or more	12	8444	0 / 4529	0 / 3915	Mean Difference (IV, Random, 95% CI)	-3.22 [-4.32, -2.13]	$I^2 = 88\%$	$\chi^2 = 92.14, df = 11 (P < 0.00001); I^2 = 88\%$	Z = 5.78 (P < 0.00001)	
1.51 Weight Change in kg - DM	49	23911	0 / 12680	0 / 11231	Mean Difference (IV, Random, 95% CI)	-2.85 [-3.34, -2.36]	$I^2 = 86\%$	$\chi^2 = 331.54, df = 48 (P < 0.00001); I^2 = 86\%$	Z = 11.44 (P < 0.00001)	<b><math>\chi^2 = 2.95, df = 2 (P = 0.23), I^2 = 32.2\%</math></b>
1.51.2 Type 2 Diabetes	7	5936	0 / 3167	0 / 2769	Mean Difference (IV, Random, 95% CI)	-2.35 [-2.87, -1.84]	$I^2 = 16\%$	$\chi^2 = 7.12, df = 6 (P = 0.31); I^2 = 16\%$	Z = 8.90 (P < 0.00001)	
1.51.3 Impaired glucose tolerance or fasting glycaemia	7	2998	0 / 1538	0 / 1460	Mean Difference (IV, Random, 95% CI)	-3.03 [-4.25, -1.82]	$I^2 = 76\%$	$\chi^2 = 25.34, df = 6 (P = 0.0003); I^2 = 76\%$	Z = 4.89 (P < 0.00001)	
1.51.4 Other	35	14977	0 / 7975	0 / 7002	Mean Difference (IV, Random, 95% CI)	-3.02 [-3.64, -2.39]	$I^2 = 87\%$	$\chi^2 = 270.98, df = 34 (P < 0.00001); I^2 = 87\%$	Z = 9.48 (P < 0.00001)	

1.52 Weight Change in kg - Ethnicity	49	23911	0 / 12680	0 / 11231	Mean Difference (IV, Random, 95% CI)	-2.85 [-3.34, -2.36]	$I^2 = 86\%$	$\chi^2 = 331.54, df = 48 (P < 0.00001); I^2 = 86\%$	Z = 11.44 (P < 0.00001)	<b><math>\chi^2 = 2.99, df = 3 (P = 0.39), I^2 = 0\%</math></b>
1.52.2 Mixed	15	13248	0 / 6845	0 / 6403	Mean Difference (IV, Random, 95% CI)	-2.67 [-3.33, -2.02]	$I^2 = 84\%$	$\chi^2 = 87.79, df = 14 (P < 0.00001); I^2 = 84\%$	Z = 8.02 (P < 0.00001)	
1.52.3 Caucasian	32	10306	0 / 5658	0 / 4648	Mean Difference (IV, Random, 95% CI)	-3.06 [-3.81, -2.30]	$I^2 = 87\%$	$\chi^2 = 241.71, df = 31 (P < 0.00001); I^2 = 87\%$	Z = 7.94 (P < 0.00001)	
1.52.4 Black	1	190	0 / 93	0 / 97	Mean Difference (IV, Random, 95% CI)	-2.77 [-4.66, -0.88]	Not applicable	Not applicable	Z = 2.88 (P = 0.004)	
1.52.5 Asian	1	167	0 / 84	0 / 83	Mean Difference (IV, Random, 95% CI)	-1.32 [-3.17, 0.53]	Not applicable	Not applicable	Z = 1.40 (P = 0.16)	
1.53 Weight Change in kg - Physical activity	49	23911	0 / 12680	0 / 11231	Mean Difference (IV, Random, 95% CI)	-2.85 [-3.34, -2.36]	$I^2 = 86\%$	$\chi^2 = 331.54, df = 48 (P < 0.00001); I^2 = 86\%$	Z = 11.44 (P < 0.00001)	<b><math>\chi^2 = 7.65, df = 2 (P = 0.02), I^2 = 73.8\%</math></b>
1.53.2 No physical activity described	4	224	0 / 119	0 / 105	Mean Difference (IV, Random, 95% CI)	-2.82 [-5.40, -0.24]	$I^2 = 65\%$	$\chi^2 = 8.68, df = 3 (P = 0.03); I^2 = 65\%$	Z = 2.14 (P = 0.03)	
1.53.3 Physical activity advice	25	9728	0 / 5353	0 / 4375	Mean Difference (IV, Random, 95% CI)	-2.23 [-2.76, -1.69]	$I^2 = 74\%$	$\chi^2 = 93.96, df = 24 (P < 0.00001); I^2 = 74\%$	Z = 8.19 (P < 0.00001)	
1.53.4 Physical activity facility	20	13959	0 / 7208	0 / 6751	Mean Difference (IV, Random, 95% CI)	-3.61 [-4.43, -2.79]	$I^2 = 89\%$	$\chi^2 = 179.70, df = 19 (P < 0.00001); I^2 = 89\%$	Z = 8.60 (P < 0.00001)	
1.54 Weight Change in kg - Sex	49	23911	0 / 12680	0 / 11231	Mean Difference (IV, Random, 95% CI)	-2.85 [-3.34, -2.36]	$I^2 = 86\%$	$\chi^2 = 331.54, df = 48 (P < 0.00001); I^2 = 86\%$	Z = 11.44 (P < 0.00001)	<b><math>\chi^2 = 0.82, df = 2 (P = 0.66), I^2 = 0\%</math></b>
1.54.2 Men	2	1188	0 / 598	0 / 590	Mean Difference (IV, Random, 95% CI)	-2.85 [-7.04, 1.35]	$I^2 = 97\%$	$\chi^2 = 30.30, df = 1 (P < 0.00001); I^2 = 97\%$	Z = 1.33 (P = 0.18)	
1.54.3 Women	10	2724	0 / 1445	0 / 1279	Mean Difference (IV, Random, 95% CI)	-3.38 [-4.70, -2.07]	$I^2 = 82\%$	$\chi^2 = 49.24, df = 9 (P <$	Z = 5.05 (P < 0.00001)	

								0.00001); I <sup>2</sup> = 82%		
1.54.4 Men and women	37	19999	0 / 10637	0 / 9362	Mean Difference (IV, Random, 95% CI)	-2.73 [-3.26, -2.19]	I <sup>2</sup> = 85%	Chi <sup>2</sup> = 245.66, df = 36 (P < 0.00001); I <sup>2</sup> = 85%	Z = 10.01 (P < 0.00001)	
1.55 Weight change in kg at one year	44	20938	0 / 11062	0 / 9876	Mean Difference (IV, Random, 95% CI)	-3.42 [-4.09, -2.75]	I <sup>2</sup> = 92%	Chi <sup>2</sup> = 559.79, df = 43 (P < 0.00001); I <sup>2</sup> = 92%	Z = 10.06 (P < 0.00001)	
1.56 Weight change in kg at two years	20	11221	0 / 5888	0 / 5333	Mean Difference (IV, Random, 95% CI)	-2.51 [-3.42, -1.60]	I <sup>2</sup> = 89%	Chi <sup>2</sup> = 178.04, df = 19 (P < 0.00001); I <sup>2</sup> = 89%	Z = 5.42 (P < 0.00001)	
1.57 Weight change in kg at three years or more	8	9867	0 / 4948	0 / 4919	Mean Difference (IV, Random, 95% CI)	-2.56 [-3.50, -1.62]	I <sup>2</sup> = 87%	Chi <sup>2</sup> = 55.85, df = 7 (P < 0.00001); I <sup>2</sup> = 87%	Z = 5.35 (P < 0.00001)	
1.58 All-cause Mortality - Ethnicity with Asian populations	38	23589	326 / 12197	385 / 11392	Risk Ratio (M-H, Random, 95% CI)	0.84 [0.73, 0.97]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 25.23, df = 37 (P = 0.93); I <sup>2</sup> = 0%	Z = 2.44 (P = 0.01)	Chi <sup>2</sup> = 2.60, df = 3 (P = 0.46), I <sup>2</sup> = 0%
1.58.2 Mixed	10	12552	267 / 6324	319 / 6228	Risk Ratio (M-H, Random, 95% CI)	0.84 [0.72, 0.98]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 5.43, df = 9 (P = 0.80); I <sup>2</sup> = 0%	Z = 2.23 (P = 0.03)	
1.58.3 Caucasian	22	8763	43 / 4750	54 / 4013	Risk Ratio (M-H, Random, 95% CI)	0.73 [0.49, 1.08]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 14.38, df = 21 (P = 0.85); I <sup>2</sup> = 0%	Z = 1.59 (P = 0.11)	
1.58.4 Black	1	213	1 / 107	0 / 106	Risk Ratio (M-H, Random, 95% CI)	2.97 [0.12, 72.15]	Not applicable	Not applicable	Z = 0.67 (P = 0.50)	
1.58.5 Asian	5	2061	15 / 1016	12 / 1045	Risk Ratio (M-H, Random, 95% CI)	1.34 [0.63, 2.83]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 2.87, df = 4 (P = 0.58); I <sup>2</sup> = 0%	Z = 0.76 (P = 0.45)	
1.59 Cancer Mortality - Ethnicity with Asian populations	9	3115	16 / 1700	21 / 1415	Risk Ratio (M-H, Random, 95% CI)	0.65 [0.34, 1.23]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 4.58, df = 8 (P = 0.80); I <sup>2</sup> = 0%	Z = 1.32 (P = 0.19)	Chi <sup>2</sup> = 2.78, df = 2 (P = 0.25), I <sup>2</sup> = 28.1%
1.59.2 Mixed	1	291	0 / 144	1 / 147	Risk Ratio (M-H, Random, 95% CI)	0.34 [0.01, 8.28]	Not applicable	Not applicable	Z = 0.66 (P = 0.51)	
1.59.3 Caucasian	7	2328	13 / 1312	20 / 1016	Risk Ratio (M-H, Random, 95% CI)	0.59 [0.30, 1.16]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 1.75, df = 6 (P = 0.94); I <sup>2</sup> = 0%	Z = 1.54 (P = 0.12)	
1.59.4 Black	0	0	0 / 0	0 / 0	Risk Ratio (M-H, Random, 95% CI)	Not estimable	Not applicable	Not applicable	Not applicable	

1.59.5 Asian	1	496	3 / 244	0 / 252	Risk Ratio (M-H, Random, 95% CI)	7.23 [0.38, 139.21]	Not applicable	Not applicable	Z = 1.31 (P = 0.19)	
1.60 Cardiovascular Mortality - Ethnicity with Asian populations	10	10117	68 / 5053	70 / 5064	Risk Ratio (M-H, Random, 95% CI)	0.95 [0.68, 1.32]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 5.95, df = 9 (P = 0.74); I <sup>2</sup> = 0%	Z = 0.31 (P = 0.75)	Chi <sup>2</sup> = 0.27, df = 2 (P = 0.87), I <sup>2</sup> = 0%
1.60.2 Mixed	4	8262	57 / 4122	62 / 4140	Risk Ratio (M-H, Random, 95% CI)	0.91 [0.64, 1.31]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 1.73, df = 3 (P = 0.63); I <sup>2</sup> = 0%	Z = 0.50 (P = 0.62)	
1.60.3 Caucasian	4	828	8 / 425	7 / 403	Risk Ratio (M-H, Random, 95% CI)	1.11 [0.41, 2.96]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 1.89, df = 3 (P = 0.60); I <sup>2</sup> = 0%	Z = 0.20 (P = 0.84)	
1.60.4 Black	0	0	0 / 0	0 / 0	Risk Ratio (M-H, Random, 95% CI)	Not estimable	Not applicable	Not applicable	Not applicable	
1.60.5 Asian	2	1027	3 / 506	1 / 521	Risk Ratio (M-H, Random, 95% CI)	1.67 [0.08, 33.67]	I <sup>2</sup> = 47%	Chi <sup>2</sup> = 1.90, df = 1 (P = 0.17); I <sup>2</sup> = 47%	Z = 0.34 (P = 0.74)	
1.61 Cancer Event - Ethnicity with Asian populations	20	6826	56 / 3669	50 / 3157	Risk Ratio (M-H, Random, 95% CI)	0.96 [0.65, 1.40]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 8.68, df = 19 (P = 0.98); I <sup>2</sup> = 0%	Z = 0.23 (P = 0.82)	Chi <sup>2</sup> = 2.71, df = 3 (P = 0.44), I <sup>2</sup> = 0%
1.61.1 Mixed	5	1773	7 / 918	11 / 855	Risk Ratio (M-H, Random, 95% CI)	0.70 [0.27, 1.81]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 1.10, df = 4 (P = 0.89); I <sup>2</sup> = 0%	Z = 0.74 (P = 0.46)	
1.61.2 Caucasian	13	4344	45 / 2400	39 / 1944	Risk Ratio (M-H, Random, 95% CI)	0.96 [0.62, 1.47]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 4.81, df = 12 (P = 0.96); I <sup>2</sup> = 0%	Z = 0.20 (P = 0.84)	
1.61.3 Black	1	213	1 / 107	0 / 106	Risk Ratio (M-H, Random, 95% CI)	2.97 [0.12, 72.15]	Not applicable	Not applicable	Z = 0.67 (P = 0.50)	
1.61.4 Asian	1	496	3 / 244	0 / 252	Risk Ratio (M-H, Random, 95% CI)	7.23 [0.38, 139.21]	Not applicable	Not applicable	Z = 1.31 (P = 0.19)	
1.62 Any Cardiovascular Event - Ethnicity with Asian populations	26	16203	522 / 8334	560 / 7869	Risk Ratio (M-H, Random, 95% CI)	0.94 [0.84, 1.06]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 21.36, df = 25 (P = 0.67); I <sup>2</sup> = 0%	Z = 1.00 (P = 0.32)	Chi <sup>2</sup> = 8.94, df = 2 (P = 0.01), I <sup>2</sup> = 77.6%
1.62.2 Mixed	11	11364	464 / 5841	487 / 5523	Risk Ratio (M-H, Random, 95% CI)	0.96 [0.85, 1.08]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 5.38, df = 10 (P = 0.86); I <sup>2</sup> = 0%	Z = 0.67 (P = 0.51)	
1.62.3 Caucasian	13	3812	33 / 1987	59 / 1825	Risk Ratio (M-H, Random, 95% CI)	0.59 [0.39, 0.89]	I <sup>2</sup> = 0%	Chi <sup>2</sup> = 6.15, df = 12 (P = 0.91); I <sup>2</sup> = 0%	Z = 2.52 (P = 0.01)	
1.62.4 Black	0	0	0 / 0	0 / 0	Risk Ratio (M-H, Random, 95% CI)	Not estimable	Not applicable	Not applicable	Not applicable	

1.62.5 Asian	2	1027	25 / 506	14 / 521	Risk Ratio (M-H, Random, 95% CI)	1.80 [0.94, 3.43]	$I^2 = 0\%$	$\chi^2 = 0.89, df = 1 (P = 0.35); I^2 = 0\%$	Z = 1.78 (P = 0.08)	
1.63 Weight Change in kg - Ethnicity with Asian populations	52	25223	0 / 13328	0 / 11895	Mean Difference (IV, Random, 95% CI)	-2.72 [-3.19, -2.25]	$I^2 = 86\%$	$\chi^2 = 371.16, df = 51 (P < 0.00001); I^2 = 86\%$	Z = 11.36 (P < 0.00001)	<b><math>\chi^2 = 18.31, df = 3 (P = 0.0004), I^2 = 83.6\%</math></b>
1.63.2 Mixed	15	13248	0 / 6845	0 / 6403	Mean Difference (IV, Random, 95% CI)	-2.67 [-3.33, -2.02]	$I^2 = 84\%$	$\chi^2 = 87.79, df = 14 (P < 0.00001); I^2 = 84\%$	Z = 8.02 (P < 0.00001)	
1.63.3 Caucasian	32	10306	0 / 5658	0 / 4648	Mean Difference (IV, Random, 95% CI)	-3.06 [-3.81, -2.30]	$I^2 = 87\%$	$\chi^2 = 241.71, df = 31 (P < 0.00001); I^2 = 87\%$	Z = 7.94 (P < 0.00001)	
1.63.4 Black	1	190	0 / 93	0 / 97	Mean Difference (IV, Random, 95% CI)	-2.77 [-4.66, -0.88]	Not applicable	Not applicable	Z = 2.88 (P = 0.004)	
1.63.5 Asian	4	1479	0 / 732	0 / 747	Mean Difference (IV, Random, 95% CI)	-1.00 [-1.71, -0.29]	$I^2 = 39\%$	$\chi^2 = 4.88, df = 3 (P = 0.18); I^2 = 39\%$	Z = 2.76 (P = 0.006)	
1.64 JACC Non fatal	17	12765	406 / 6608	428 / 6157	Risk Ratio (M-H, Random, 95% CI)	0.95 [0.84, 1.08]	$I^2 = 0\%$	$\chi^2 = 11.74, df = 16 (P = 0.76); I^2 = 0\%$	Z = 0.76 (P = 0.45)	
1.65 JACC Fatal	8	9090	65 / 4547	69 / 4543	Risk Ratio (M-H, Random, 95% CI)	0.93 [0.67, 1.31]	$I^2 = 0\%$	$\chi^2 = 3.73, df = 7 (P = 0.81); I^2 = 0\%$	Z = 0.40 (P = 0.69)	
1.66 JACC Fatal and non fatal	20	13980	471 / 7219	497 / 6761	Risk Ratio (M-H, Random, 95% CI)	0.95 [0.85, 1.07]	$I^2 = 0\%$	$\chi^2 = 12.54, df = 19 (P = 0.86); I^2 = 0\%$	Z = 0.85 (P = 0.40)	
1.67 Numbers Followed-up	56	28991	12722 / 15222	11510 / 13769	Risk Ratio (M-H, Random, 95% CI)	0.99 [0.98, 1.00]	$I^2 = 46\%$	$\chi^2 = 97.67, df = 53 (P = 0.0002); I^2 = 46\%$	Z = 1.37 (P = 0.17)	